Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337
	)	
Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
	)	

REPLY COMMENTS OF CONSUMERS UNION, CONSUMER FEDERATION OF AMERICA, FREE PRESS, AND NEW AMERICA FOUNDATION

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SUMMARY

Free Press, Consumers Union, Consumer Federation of America, and New America Foundation submit these comments in response to the Federal-State Joint Board on Universal Service's request for input into the issue of long-term, comprehensive high-cost universal service reform.

We approach this proceeding with a sharp focus on the principles of universal service as embodied in the 1996 Telecommunications Act. Our analysis is guided by these principles, which though 12 years old, establish a reasonable and relevant framework for USF modernization.

In moving this proceeding to a conclusion, the Commission should be influenced only by concerns of adhering to the principles of the Act, and not swayed by arguments made by narrow business interests with a stake in maintaining the status quo. In short, the Commission must develop and implement a USF reform plan that modernizes the fund to reflect the realities of the 21st century Internet marketplace, and do so in a manner that is consistent with the public interest. We suggest that the Commission's deliberations begin by establishing criteria for evaluating USF reform plan based primarily on the principles in Section 254. In these reply comments, we do just that.

Our consideration of these principles and criteria leads us towards a basic conclusion: Universal service funds should be used to fund next-generation broadband networks in those areas that are currently unserved. Furthermore, these networks should be operated under open access policy, in order to ensure the consumers reap the benefits of competition in an efficient manner.

Our consideration of Section 254 principles also leads us to the conclusion that the amount of USF funding should likely not increase from current levels -- even with the subsidization of broadband. This practical reality results in a tough choice: How should the limited pool of resources be used to best further the principles and goals of universal service?

To answer this question, we conducted an analysis of the current distribution of high cost program funds. We specifically focused on *per line* High Cost Fund support needs. A focus on per line support enables clarity in the effort to decide how best to reallocate resources from telephony support towards broadband support.

This analysis produced some telling results:

- The vast majority of lines supported by the High Cost Fund (HCF) receive very small amounts of monthly per line support.
    - Half of all lines supported by the HCF receive less than 31 cents per month in per line support.
    - 95 percent of all lines supported by the HCF receive less than $12 per month in per line support.
    - Half of the entire $4.6 billion annual HCF goes to supporting lines that require less than $15 per month in per line support.
    - A full 71 percent of the HCF (some $3.3 billion annually) goes to supporting lines that require less than $30 per month in per line support. These lines account for 99 percent of all HCF-supported lines.
    - Substantial portions of the lines requiring "marginal support" (i.e. support less than $30 per month per line) are lines offered by carriers who do not operate under rate regulation. Thus, the offsetting consumer benefits resulting from this support is questionable.

Based on the revelation that a substantial portion of the HCF goes to supporting lines that only require only marginal support, we contend that much of this money would be better utilized to fund deployment of broadband to unserved areas. We develop a "Discussion Proposal" that redirects (during and after a 5-year "phasedown" period) $3.9 billion of the $4.6 billion in annual high cost funding. Our "Broadband High Cost Fund"

(created from this redirection of funds from primarily marginally-supported telephone lines) is designed to fund, over a ten-year period, deployment of "future-proof" broadband infrastructure to the approximately 8 million U.S. households that lack access to any terrestrial broadband service. Our Discussion Proposal also offers ongoing support for legacy telephony networks during the transition, and offers ongoing support for the new broadband infrastructure projects where needed.

The proposal described in these reply comments is structured to avoid many of the pitfalls and inconsistencies present in the proposals offered by the Joint Board in its *Recommended Decision* and contained in the *Reverse Auction NPRM* and the *Identical Support NPRM*. It also avoids the protection of any single business model, a feature of many of the industry proposals. Our Discussion Proposal confronts some difficult trade-offs, but ultimately offers the best solution for modernizing the fund in an efficient, equitable and pro-consumer manner.

It is plainly obvious from the record in this proceeding that there are no easy solutions for fixing the Fund. But we strongly caution the Commission against embracing short-term solutions that avoid the tough choices that are needed for long-term reform. The current digital divide is partly a result of the Commission's failure to adequately implement the evolving vision of universal service. When considering reform proposals, the Commission should rectify the mistakes of the past by implementing forward-thinking policies that recognize the realities of the converged marketplace. We strongly encourage the Commission to affirm the Joint Board's decision to support broadband, and urge all five Commissioners to move expeditiously to enact reforms that make open access broadband networks the centerpiece of universal service policy.

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COMMENTS OF CONSUMERS UNION,
CONSUMER FEDERATION OF AMERICA,
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AND
NEW AMERICA FOUNDATION

Consumers Union, Consumer Federation of America, Free Press, and New America Foundation (collectively, "CU et al."), respectfully submit these Joint Reply Comments in response to the Notice of Proposed Rulemaking regarding the November 2007 Recommended Decision by the Federal-State Joint Board on Universal Service ("Joint Board"; FCC 08-22, released January 29, 2008); the Notice of Proposed Rulemaking regarding the elimination of the identical support rule for Competitive Eligible Telecommunications Carriers (FCC 08-4, released January 29, 2008); and the Notice of Proposed Rulemaking regarding the use of reverse auctions to determine Federal Universal Service Fund support (FCC 08-5, released January 29, 2008).

I. INTRODUCTION

A. INTEREST AND EXPERTISE OF COMMENTERS

Consumers Union, the publisher of Consumer Reports®, is an independent, nonprofit testing and information organization serving only consumers. CU does advocacy work from four offices in New York, Washington, San Francisco, and Austin. CU's public policy staff addresses a broad range of telecommunications, media and other policy issues affecting consumers at the regional, national and international level. CU staff members frequently testify before Federal and state legislative and regulatory bodies and participate in rulemaking activities at the Commission and elsewhere.

The Consumer Federation of America is an advocacy, research, education and service organization established in 1968. CFA has as its members some 300 nonprofit organizations from throughout the nation with a combined membership exceeding 50 million people. As an advocacy group, CFA works to advance pro-consumer policy on a variety of issues before Congress, the White House, federal and state regulatory agencies, state legislatures, and the courts.

Free Press is a national nonpartisan organization working to increase informed public participation in crucial media policy debates, and to generate policies that will produce a more competitive and public interest-oriented media system with a strong nonprofit and non-commercial sector.

New America Foundation (NAF) is a nonpartisan, non-profit public policy institute based in Washington, DC, which, through its Wireless Future Program, studies and advocates reforms to improve our nation's management of publicly-owned assets, particularly the public airwaves and to promote universal and ubiquitous broadband deployment.

B. SCOPE AND NATURE OF THE UNIVERSAL SERVICE PROBLEM

In 1996 when the current USF was created, there were not many who fully grasped how the phenomenon of convergence would radically transform the underpinnings of all telecommunications regulatory structures. At the time, Internet access was an *application* that used telephony as an *infrastructure*. Today, telephony is one of many applications that are supported by broadband infrastructure. Yet the fundamental need for universal service remains. Millions of American homes cannot purchase a broadband connection at any price, and millions more are only offered third-rate broadband service at exorbitant prices. This is tragic, as broadband is the essential service of the 21st century.

Convergence has forced policymakers to undertake a complete overhaul of our basic conceptions of, justifications for, and administering of universal service.

The time for Commission action is long overdue. But the three NPRMs out for comment, while broad in nature, do not deal with the problem of universal service reform in a comprehensive manner.

Ultimately, we believe that broadband is the communications infrastructure of the 21st century, and that the principle goal of the USF should be to support the deployment of, and consumer access to, next-generation, future-proof high-speed Internet services. But to reach that goal, we must completely upend the status quo, and confront some difficult, political challenging choices. The Fund as currently administered inefficiently supports redundant legacy technologies and enables private companies to become wholly dependent on the continuance of the old model. It is imperative that the Commission act to change this path-dependent model.

But the upsetting of the status quo must be done in a realistic manner. As we stated in our initial comments, it is not enough to simply say broadband should be supported. A method for reaching universal broadband service must be proposed that does not balloon the size of the fund, which is already under great strain.

In these comments, we begin with an analysis of the principles underpinning universal service, and develop criteria for modernization based upon these principles. We then conduct a quantitative analysis of the current distributions of universal service funds, in order to better guide how to transition current funding away from POTS support, towards broadband support.

II. DISCUSSION

A. GOALS, PRINCIPALS AND CRITERIA FOR ANALYZING USF REFORM PLANS

The development and administration of universal service policy in the United States is an interest group-driven, politically charged, path-dependent process. This makes it extremely difficult for legislators and regulators to enact even modest incremental changes, much less large sweeping reform. The universal service policy arena is populated by players with disparate business interests all claiming the mantle of "good and right" in their own reform proposals, despite the fact that these proposals often push the "pain" of USF reform onto to others while protecting their own business models.

The mix of disparate interests, entrenched business models, outdated legislative directives, arbitrage-creating artificial policy distinctions, and $7 billion annually of funds makes the Commission's job of implementing meaningful reform quite challenging. It certainly does not help that many of the current problems with the USF were created by shortsighted action by the Commission in the past.

But while the problems with the current USF are numerous and daunting, they are not insurmountable. The Commission must take advantage of the window of opportunity created by the near universal consensus that USF reform is long overdue. The Commission should avoid the approach of balancing the interests of the various industry factions and instead focus on developing a policy framework that is guided by the principle of serving the public interest and has the best chance of achieving the core outcome goal of universal service: maximizing the availability, affordability, and adoption of communications technology in all regions of the nation.

As consumer advocates, we feel strongly that the goal of universal service is noble and should be pursued. We recognize that despite the advances in the communications marketplace since the 1996 Act, millions of rural consumers remain on the wrong side of the digital divide and will likely remain so without governmental intervention. The fact that this digital divide persists in the face of a $4.5 billion annual high-cost fund to support telephony is a glaring testimony of the failures of the current universal service model and the need for modernization. But we also recognize that these billions of dollars are collected for the most part from urban consumers, who only realize indirect benefits from the Fund. It is therefore vital that these consumer's monies are spent in the most efficient manner possible, and that the gains in added rural subscribers not come at the expense of losses in urban subscribership.

In our initial comments in this proceeding, we outlined our core belief that broadband is the communications infrastructure of the 21st century, and that the principle goal of the USF should be to support the deployment of, and consumer access to, next-

generation, future-proof high-speed Internet services.[1] We feel that this is the intent embodied in Section 254 of the Act, which though written at the dawn of the broadband age, speaks of universal service as an "evolving level" of services that accounts for advances in the communications and information technology marketplace. Broadband is one of the fastest adopted communications technologies in history and telephony is one of many essential applications that utilize broadband Internet infrastructure. These two facts along with the language of Section 254 necessitate that the Commission's core focus in USF reform be placed on reaching the goal of universal and affordable broadband access.

We also recognized in our initial comments that declaring broadband should be a supported service is obvious and easy to do, but transforming that declaration into reality requires a bold plan that upends the status quo without ballooning the size of the fund. At the center of this proceeding is such a plan offered by the Joint Board. Many commenters also filed their own reform plans, some more detailed than others, but most offering ideas on how to incorporate broadband into the USF.

When evaluating these various plans, we encourage the Commission to approach its analysis in a manner that is criteria-based and outcome-oriented. The Commission should place less emphasis on the impacts of upsetting the status quo at the outset of its

[1] Comments of Consumers Union, Consumer Federation of America and Free Press *In the Matter of High-Cost Universal Service Support and the Federal-State Joint Board on Universal Service*, Notices of Proposed Rulemakings (NPRMs), WC Docket No. 05-337, CC Docket No. 96-45, FCC 08-4 (Identical Support Rule NPRM), FCC 08-5 (Reverse Auctions NPRM), and FCC 08-22 (Federal-State Joint Board NPRM)(submitted April 17, 2008) (April 2008 Consumer Group Comments).

analysis, and instead deal with the distributional impacts of USF reform when confronting the tradeoffs of each plan.

In these reply comments we undertake such an approach in our analysis of the "USF problem" and our discussion of a potential framework for modernization. Below we discuss the principles that should guide universal service policy then develop a specific set of criteria to measure reform proposals against. We then offer our own USF reform discussion proposal. We readily admit that our discussion proposal is not perfect, nor complete. It contains some elements that are compromises conforming to practical realities that in a perfect world we would rather not see. The framework for universal service administration established by the 1996 Act renders the ideal impossible. This fact alone illustrates why it is imperative for Congress to weigh in and overhaul the system it established in the pre-convergence era.

We do however feel that the underlying elements of our proposal provide a foundation for USF modernization that is practical and efficient. But as previously stated, reform requires some "pain" and whatever plan the Commission moves forward will be perceived by many interested parties to be wholly unworkable. Our proposal discusses methods to equitably and efficiently minimize the short-term pain and maximize the long-term benefits; the latter being the concern we believe should guide the Commission in its future deliberations.

i. PRINCIPLES GUIDING UNIVERSAL SERVICE POLICY

The criteria we use to evaluate USF reform alternatives are largely based on the "public interest" provisions contained within the 1934 Communications Act, which in its first sentence declares the Act's intention to facilitate Universal Service in all

communications technology by establishing the Commission "to make available, so far as possible... a rapid, efficient, Nationwide... wire and radio communication service with adequate facilities at reasonable charges".[2]

This overarching purpose of the Act is made explicit Section 254 of the Act, which specifies principles that the Joint Board and the Commission are to use to guide Universal Service policymaking. Therefore, in our development of criteria for the evaluation of USF reform proposals, these specific principles from Section 254 are given substantial weight.

The principles for USF policymaking in Section 254 of the Act state:

- "Quality services should be available at just, reasonable, and affordable rates.[3]
- "Access to advanced telecommunications and information services should be provided in all regions of the Nation.[4]
- "Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas.[5]
- "All providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service.[6]
- "There should be specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service.[7]
- "Elementary and secondary schools and classrooms, health care providers, and libraries should have access to advanced telecommunications services as described in subsection (h)."[8]

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[2] 47 USC §151
[3] 47 USC §254 (b) (1)
[4] 47 USC §254 (b) (2)
[5] 47 USC §254 (b) (3)
[6] 47 USC §254 (b) (4)
[7] 47 USC §254 (b) (5)
[8] 47 USC §254 (b) (6)

Section 254(b) also gives the Joint Board and the Commission further authority to establish additional principles that they "determine are necessary and appropriate for the protection of the public interest, convenience, and necessity" and are consistent with the Act.[9] In the 1996 *Recommended Decision*[10], the Joint Board proposed an additional principle of "competitive neutrality" which the Commission subsequently adopted.[11] This principle was defined as meaning that "universal service support mechanisms and rules neither unfairly advantage nor disadvantage one provider over another, and neither unfairly favor nor disfavor one technology over another."

Our analysis is guided by these seven principles and two additional principles that we feel are important to the promotion of the public interest. First, the burden placed on consumers for supporting the fund should be minimized to the extent needed to provide the most efficient universal service support possible. Second, consumers in all regions of the nation deserve the benefits of competition, and universal service support for that competition should be administered in the most efficient manner possible.

[9] 47 USC §254 (b) (7)

[10] *In the Matter of Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Recommended Decision, 12 FCC Rcd 87 (released November 8, 1996) (*1996 Recommended Decision*).

[11] *In the Matter of Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order, FCC 97-157 (released May 8, 1997) (*1996 Universal Service Order*).

ii. Criteria for Evaluating Universal Service Fund Reform Proposals

Based on the overarching principle of the promotion of the public interest, the seven statutory universal service principles promulgated under Section 254, and the two additional pro-consumer principles we propose, we establish the following criteria criterion for evaluating USF reform alternatives:

Criteria for Evaluating Universal Service Fund Reform Alternatives

- Universal Service:
  - Maximize the availability, affordability, and adoption of telecommunications services and advanced information services.
- Economic Efficiency:
  - Maximize consumer utility.
  - Maximize benefits and minimize costs.
  - Maximize the capturing of network externalities.
  - Minimize deadweight loss and surplus losses.
- Equity:
  - Allocate costs and benefits in an equitable manner.
  - Minimize contribution burden with a definition of "reasonably comparable rates" that reflects real-world use of telecommunications and advanced information services and accounts for the overall economic differences between high-cost and all other areas of the nation.
- Competitive Neutrality:
  - Minimize any market distortions caused by universal service subsidies.
  - Maximize incentives for market deployment of most advanced and efficient communications technologies.
- Planning for the Future:
  - Minimize the likelihood that supported networks will become obsolete in the foreseeable future.
  - Minimize the need for, and amount of future universal service support.
- Openness and Consumer Protection:
  - Minimize harms of vertical integration and market power by minimizing market concentration and minimizing control of access to content by any service provider.

Alternative USF reform proposals should be measured against these criteria, and those plans that strike the best balance among these factors will be well suited to achieve the goals of Section 254 in an efficient and equitable manner.

B. Evaluation of Joint Board USF Reform Proposal, The Identical Support NPRM, and The Reverse Auction NPRM

i. Joint Board Recommended Decision

The Joint Board made the right decision that broadband should be a supported service. However, board's proposal of three separate High-Cost Funds (Provider of Last Resort (telephony), Mobility, and Broadband) does not logically square with the conclusion that broadband should be a supported service. As stated above, broadband is an infrastructure that support telephony as an application. To support telephony in addition to broadband is redundant and goes against the principle of universal service as "evolving." We strongly urge the Commission to modernize the fund in a manner that transitions away from telephony support, towards exclusive broadband support.

The Joint Board recommends that the "Broadband Fund" receive $300 million in annual support. The notion that broadband will only receive 6.7% of the total High-Cost fund (while POTS provided by ILECs receive 71%) and that this will be adequate towards serving the goals of Section 254 is plainly absurd.

We urge the Commission to reject the structure of the Joint Board proposal, and instead enact bold modernization reform. We outline a potential framework below.

ii. Commission NPRM on Reverse Auctions

The Reverse Auction NPRM is correct in its aim to support one superior network. But the emphasis on per-line ongoing support and lack of an explicit discussion of open

access are major shortcomings that perpetuate many of the "broken" features of the current USF.

We have some concerns with several of the tentative conclusions in the Reverse Auction NPRM. First, the requirement that bidders must already be a certified ETC shuts out any new entrants -- most notably cable companies. Second, the conclusion that wireline LEC study area should be geographic base of study area for reverse auctions is not most efficient or competitively neutral. Third, while it is encouraging that the Commission concludes that winners of a reverse auction must be capable of providing 1.5Mbps service, broadband should not be thought of as a service -- it is infrastructure. Here the Commission has it exactly backwards. Fourth, the Commission concludes reserve prices should be based on current per-line support. This is bizarre, as it may unjustly enrich wireless carriers (who receive above cost subsidies); or it could be biased against wireless carriers, depending on current cost allocation methodology (forward looking versus historical). It is also bizarre, as current per-line support is for POTS only; yet as mentioned above, reverse auction terms are for a 1.5Mbps level of Internet-capable service. Fifth, the unanswered questions in the NPRM about frequency of auction illustrate the need to focus on support on infrastructure builds, and less so on the need for ongoing support.

There are numerous comments in the record on why reverse auctions sound good in theory, but will likely fail in practice. We expressed some of these concerns ourselves in our 2007 comments in this proceeding. We are fundamentally agnostic about this issue, but feel that a more flexible approach to awarding support, such as a Request For Proposal (RFP) might be a better approach. We detail such a framework below.

iii. COMMISSION NPRMS ON THE ELIMINATION OF THE IDENTICAL SUPPORT RULE

The Identical Support Rule NPRM makes the correct conclusion, that the current system encourages inefficient allocation of resources. We plainly support the elimination of this rule whose usefulness has long past.

But the proposed solution in the NPRM assumes a minimal change from the status quo. For example, the issue of competition in the context of substitutable versus complementary services is not addressed. The *Identical Support NPRM* also seems to be unaware of the conclusions in the *Recommended Decision NPRM* and the *Reverse Auction NPRM*, which is problematic.

We do have some specific concerns with some of the "tentative conclusions" in the *Identical Support NPRM*. First, the use of projected "future subscribership" numbers to determine support will lead to inefficiencies. Such a practice illustrates again why ongoing support, as opposed to infrastructure support, is the wrong way to go. Second, it is not absolutely clear that wireless carrier's cost will be lower than ILECs, as this depends on cost allocation method. For example, forward-looking costs for a mobile network are certainly higher than historical costs for 10-year old copper pair. The Commission should be aware of such differences.

Ultimately, much of the problems and conflicts in the three NPRMs can be overcome or rendered moot with the implementation of a comprehensive modernization strategy. We now turn to our development of such a proposal.

C. CONSUMER GROUPS' USF REFORM DISCUSSION PROPOSAL

We approach our development of a reform proposal with the assumption that the size of the high cost fund will be fixed at the 2008 level (approximately $4.6 billion).[12] While we make no judgment on what the appropriate level of funding should be to achieve the goals of universal service, we do recognize the reality that continued fund growth is politically unfeasible. The Commission has acted on the Joint Board's recommendation[13] to cap at the state-level the funds that are distributed to Competitive Eligible Communication Carriers (CETCs).[14] For 2008, CETC support is projected to account for approximately $1.52 billion of the $4.62 billion spent on the high cost fund, or one-third of the entire program. Though this cap is only interim (for one year) and only applies to one-third of the total monies in the High Cost Fund, growth in the funds apportioned to incumbents has largely been stable since 2003 according to the Joint Board.[15] Furthermore, the High Cost Loop program is subject to an annual index cap and the Interstate Access Support program has an annual target. Together these two programs account for $1.52 billion of the total $3.1 billion in projected 2008 support for incumbent carriers. There is no indication that this Commission or Congress are willing to let the

[12] All data in this section are based on the Universal Service Administration Corporation's Second Quarter 2008 Filing Appendices, available at http://www.universalservice.org/about/governance/fcc-filings/2008/quarter-2.aspx.

[13] In the Matter of *High-Cost Universal Service Support; Federal-State Joint Board on Universal Service*, WC Docket No. 05-337, CC Docket No. 96-45, Recommended Decision, 22 FCC Rcd 8998 (Fed.-State Jt. Bd. 2007) (*2007 Recommended Decision*).

[14] In the Matter of *High-Cost Universal Service Support; Federal-State Joint Board on Universal Service*, WC Docket No. 05-337, CC Docket No. 96-45, Order, FCC 08-122, (released May 1, 2008).

[15] *2007 Recommended Decision*

high cost fund grow larger than the current level, which is nearly 170 percent higher than the level in 1999.[16]

i. The Current Distribution of High Cost Funds

Given a fixed amount of funds and our desire to see the high cost program restructured to facilitate universal access to next-generation broadband networks, we must look at how funds are currently distributed in order to assess how best to reallocate the fixed pool of resources.

The High Cost Fund is divided into seven separate sub-funds or programs, distinctions drawn primarily for the purposes of distinguishing between the fiscal demands of small and large incumbent carriers (confusingly called "rural" and "non-rural" carriers; competitive carriers support is based not on their size but on the size of the incumbent in whose study area they offer service).[17] Funds are apportioned at the study area level. Carriers operating in "rural" study areas account for all of the monies apportioned to the High Cost Loop (HCL), Safety Net Additive (SNA), Safety Valve Support (SVS), and Local Switching Support (LSS) programs, and 83 percent of the

[16] *Universal Service Monitoring Report 2007*, CC Docket 98-202, December 2007. Total High Cost Fund support in 1999 was $1.718 billion, with CETC support accounting for only $500,000 of the total. For 2008 the projected HCF amount is $4.62 billion, with $1.52 billion flowing to CETCs. Incumbent HCF support has thus increase 80 percent since 1999, while CETC support has increased some 300,000 percent.

[17] The Act defines "rural telephone company" as "a local exchange carrier operating entity to the extent such entity: Provides common carrier service to any local exchange carrier study area that does not include either any incorporated place of 10,000 inhabitants or more, or any part thereof, based on the most recently available population statistics of the Bureau of the Census; or any territory, incorporated or unincorporated, included in an urbanized area, as defined by the Bureau of the Census as of August 10, 1993; Provides telephone exchange service, including exchange access, to fewer than 50,000 access lines; Provides telephone exchange service to any local exchange carrier study area with fewer than 100,000 access lines; or Has less than 15 percent of its access lines in communities of more than 50,000 on the date of enactment of the Telecommunications Act of 1996. See 47 U.S.C. § 153(37).

Interstate Common Line Support (ICLS) program funding. The two remaining programs, Interstate Access Support (IAS) and High Cost Model (HCM), support carriers operating in "non-rural" study areas (though approximately 25% of IAS support goes to carriers in rural study areas). Figure 1 summarizes the distribution of High Cost Fund monies between programs and study areas.

Figure 1: High Cost Fund Support by Program and Study Area Type (Projected 2008)

High Cost Program	Carriers in Rural Study Areas		Carriers in Non-Rural Study Areas		All Carriers	
	Annual Cost (est. 2008)	% of HCF	Annual Cost (est. 2008)	% of HCF	Annual Cost (est. 2008)	% of HCF
High Cost Loop (HCL)	$1,477,563,492	32%	$0	0%	$1,477,563,492	32%
Safety Net Additive (SNA)	$42,759,408	1%	$0	0%	$42,759,408	1%
Safety Valve Support (SVS)	$1,021,668	0.02%	$0	0%	$1,021,668	0.02%
Local Switching Support (LSS)	$475,096,980	10%	$0	0%	$475,096,980	10%
Interstate Common Line Support (ICLS)	$1,323,918,276	29%	$266,197,320	6%	$1,590,115,596	34%
Interstate Access Support (IAS)	$174,629,880	4%	$511,944,624	11%	$686,574,504	15%
High Cost Model Support (HCM)	$0	0%	$348,559,066	8%	$348,559,066	8%
All High Cost Fund Support (HCF)	$3,494,989,704	76%	$1,126,701,017	24%	$4,621,690,721	100%

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

High Cost Fund support is available on a portable basis to any carrier designated by a state or the Commission to be an Eligible Telecommunications Carrier (ETC). As previously mentioned, much of the current impetus for USF reform stems from the rapid growth in support for competitive ETCs, who are primarily wireless carriers offering a service perceived by consumers to be a complementary, not a substitutable service. Thus, whereas Congress in 1996 likely envisioned a future market where incumbent and competitive ETCs compete for the same customer, the market has instead developed to where the typical household subscribes to a landline offered by an incumbent ETC while also subscribing to one or more mobile wireless lines offered by one or more competitive ETCs.

Because of the identical support rule, CETC support is based on the incumbents per line cost. This, as detailed by the Joint Board and many commenters in this proceeding, is problematic for numerous reasons, most importantly that it inflates the size of needed support in a manner completely divorced from cost. A prime example noted by the Joint Board[18] is the support CETCs receive from the Interstate Access Support and Interstate Common Line Support programs. These two programs are designed to offset revenue losses from the reduction in interstate access charges while also maintaining low subscriber line charges (SLCs). This is a sensible subsidy, but only if the subsidized carrier charges tariff-based access charges and only if they are not permitted to recover from the customer via increases in subscriber line charges the "lost" revenues resulting from a reduction in access charges. However, most CETCs are not subject to caps on subscriber line charges, and thus can recover any losses from access charge reduction from the end user.[19] Furthermore, the Commission has determined that wireless carriers cannot impose tariff-based access charges,[20] noting that many already operate in a bill and keep manner. Thus the need for competitive carriers to receive any support from IAS or ICLS is questionable at best.

In addition, wireless CETCs also receive Local Switching Support (LSS), which is based on the relatively high per line switching costs incurred by small rural LECs. But wireless networks are not designed in a similar manner and these carriers arguably have

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[18] *In the Matter of High-Cost Universal Service Support; Federal State Joint Board on Universal Service,* WC Docket No. 05-337, CC Docket No. 96-45, Notice of Proposed Rulemaking, FCC 08-4, (released January 9, 2008), paragraph 23, (*Identical Support NPRM*).

[19] *Identical Support NPRM,* paragraph 23.

[20] *In the Matter of Petitions of Sprint PCS and AT&T Corp for Declaratory Ruling Regarding CMRS Access Charges,* WT Docket No. 01-316, Declaratory Ruling, FCC 02-203, (release July 3, 2002).

no demonstrated need for LSS support, certainly not at the same level as rural ILECs. In total, competitive carriers receive over $900 million in annual IAS and ICLS support, which accounts for 60 percent of all CETC high cost funding and 20 percent of the entire High Cost Fund (see Figure 2).

Figure 2: High Cost Fund Support by Program and Carrier Type (Projected 2008)

High Cost Program	Incumbent Carriers		Competitive Carriers		All Carriers	
	Annual Cost (est. 2008)	% of HCF	Annual Cost (est. 2008)	% of HCF	Annual Cost (est. 2008)	% of HCF
High Cost Loop (HCL)	$1,033,675,776	22%	$443,887,716	10%	$1,477,563,492	32%
Safety Net Additive (SNA)	$30,112,728	1%	$12,646,680	0%	$42,759,408	1%
Safety Valve Support (SVS)	$681,780	0.01%	$339,888	0%	$1,021,668	0.02%
Local Switching Support (LSS)	$340,104,000	7%	$134,992,980	3%	$475,096,980	10%
Interstate Common Line Support (ICLS)	$1,015,043,136	22%	$575,072,460	12%	$1,590,115,596	34%
Interstate Access Support (IAS)	$496,126,380	11%	$190,448,124	4%	$686,574,504	15%
High Cost Model Support (HCM)	$184,685,242	4%	$163,873,824	4%	$348,559,066	8%
All High Cost Fund Support (HCF)	$3,100,429,045	67%	$1,521,261,675	33%	$4,621,690,721	100%

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

There are a total of 1,855 unique Study Areas participating in the High Cost Fund, with 1,798 receiving some amount of support in 2008. Approximately 150 million lines receive some type of HCF support, with nearly 100 million of these lines being those of non-rural carriers receiving Interstate Access Support.

Overall the average monthly cost per High Cost Fund supported line is just $2.58. For those lines in non-rural carriers study areas the support is less than a dollar per month per line, while it is above $12 per month per line in rural carrier study areas. In total, rural carrier study areas account for just 16 percent of all supported lines, but 76 percent of High Cost Fund support (see Figure 3).

Figure 3: High Cost Fund Support by Study Area and Carrier Type (Projected 2008)

Study Area Carrier Type^	Study Area Carrier Cost Type	Number of Supported Study Areas#	Annual High Cost Fund Support (est. 2008)	Supported Lines*	Average Monthly Cost Per Supported Line+	Percent of All Supported Lines	Percent of High Cost Fund
Rural	Average Schedule Incumbent	455	$242,455,248	2,023,684	$9.98	1%	5%
Rural	Cost Incumbent	899	$2,243,974,656	17,080,176	$10.95	11%	49%
Rural	Competitive	283	$1,008,559,800	4,696,739	$17.89	3%	22%
Non-Rural	Average Schedule Incumbent	1	$2,838,648	107,530	$2.20	0.1%	0.1%
Non-Rural	Cost Incumbent	70	$611,160,490	92,882,783	$0.55	62%	13%
Non-Rural	Competitive	230	$512,701,876	33,224,821	$1.29	22%	11%
All Rural Carrier Areas		1,637	$3,494,989,704	23,800,599	$12.24	16%	76%
All Non-Rural Carrier Areas		301	$1,126,701,017	126,215,134	$0.74	84%	24%
	All Average Schedule Incumbents	456	$245,293,896	2,131,214	$9.59	1%	5%
	All Cost Incumbents	969	$2,855,135,149	109,969,773	$2.16	74%	62%
	All Competitive Carriers	373	$1,521,261,676	37,322,661	$3.40	25%	33%
All High-Cost Fund		1,798	$4,621,690,721	149,423,648	$2.58	100%	100%

^ 176 of the 1,855 study areas (which are served mostly by competitive carriers) have some lines classified as rural, and some as non-rural. Five of these 176 study areas receive no High Cost Fund support.

In total, 57 of the 1,855 study areas receive no support (mostly non-rural, cost carrier study areas). In total, 34,771,170 lines reported for these 57 study areas receive no high-cost fund support.

* For each study area and for each sub-high-cost-fund (except HCM) the number of supported "loops" (or "lines") is reported by USAC. For this table, the maximum number of loops for each study area + cost type combination is used as the "line" count.

+ Weighted average based on number of loops in each study area.

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

Though the Interstate Common Line Support program receives the most funding of the seven HCF programs, the High Cost Loop program is the costliest on a per-line basis. However, half of all HCL supported lines receive less than $7 support per month per line. In total half of all lines receive less than 31 cents per month in high cost fund support, while 95 percent of all High Cost Fund supported lines receive less than $12 support per month per line (see Figure 4).

Figure 4: Per Line Monthly High Cost Fund Support by Program (Projected 2008)

All Study Areas

High Cost Program	Annual Cost (est. 2008)	Supported Lines*	Average Monthly Per Supported Line Cost+	Median Monthly Per Supported Line Cost+	95th Percentile Monthly Per Supported Line Cost+	99th Percentile Monthly Per Supported Line Cost+
High Cost Loop (HCL)	$1,477,563,492	10,840,029	$11.36	$6.93	$36.35	$75.34
Safety Net Additive (SNA)	$42,759,408	2,435,303	$1.46	$1.22	$3.88	$5.05
Safety Valve Support (SVS)	$1,021,668	155,627	$0.55	$0.63	$1.88	$3.51
Local Switching Support (LSS)	$475,096,980	10,669,574	$3.71	$2.58	$9.14	$18.32
Interstate Common Line Support (ICLS)	$1,590,115,596	17,182,963	$7.71	$6.10	$17.90	$34.75
Interstate Access Support (IAS)	$686,574,504	119,721,063	$0.48	$0.20	$1.62	$3.99
High Cost Model Support#	$348,559,066	11,840,589	$2.45	$1.17	$6.40	$6.51
All High Cost Fund Support	$4,621,690,721	149,423,648	$2.58	$0.31	$11.49	$34.52

*** Supported Lines are those reported for study areas that received non-zero funding from each respective program. USAC reports some study areas with lines that receive zero funding for each respective program.**

 # USAC reports High Cost Model Support by Study Area, but does not list the total number of supported loops. For this table, the number of HCM supported lines is the maximum total lines reported for a given study area receiving non-zero HCM support.

+ Weighted based on number of loops in each study area, reported for each program. For the monthly per line support values for the entire High Cost Fund, the maximum lines reported for each study area is used.

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

For non-rural study areas the per line monthly support is quite low, with half of all lines receiving less than 17 cents per month and 95 percent of all lines receiving $5.15 or less in per line support per month. For rural study areas, half of all supported lines receive less than $5 per line per month in HCF support. However, there are some relatively expensive rural study areas that weight up the average cost. In total, 95 percent of rural study area lines receive less than $44 per month in per line support (see Figure 5).

Figure 5: Per Line Monthly High Cost Fund Support by Program and Study Area Type (Projected 2008)

Rural Study Areas

High Cost Program (Carriers Operating in Rural Study Areas)	Annual Cost (est. 2008)	Supported Lines*	Average Monthly Per Supported Line Cost+	Median Monthly Per Supported Line Cost+	95th Percentile Monthly Per Supported Line Cost+	99th Percentile Monthly Per Supported Line Cost+
High Cost Loop (HCL)	$1,477,563,492	10,840,029	$11.36	$6.93	$36.35	$75.34
Safety Net Additive (SNA)	$42,759,408	2,435,303	$1.46	$1.22	$3.88	$5.05
Safety Valve Support (SVS)	$1,021,668	155,627	$0.55	$0.63	$1.88	$3.51
Local Switching Support (LSS)	$475,096,980	10,669,574	$3.71	$2.58	$9.14	$18.32
Interstate Common Line Support (ICLS)	$1,323,918,276	13,312,135	$8.29	$6.52	$20.01	$38.51
Interstate Access Support (IAS)	$174,629,880	9,774,769	$1.49	$0.98	$4.52	$9.27
High Cost Model Support#	$0	0	$0.00	$0.00	$0.00	$0.00
All High Cost Fund Support for Rural Only Study Areas	$3,494,989,704	23,800,599	$12.24	$4.85	$43.75	$99.72

Non-Rural Study Areas

High Cost Program (Carriers Operating in Non-Rural Study Areas)	Annual Cost (est. 2008)	Supported Lines*	Average Monthly Per Supported Line Cost+	Median Monthly Per Supported Line Cost+	95th Percentile Monthly Per Supported Line Cost+	99th Percentile Monthly Per Supported Line Cost+
High Cost Loop (HCL)	$0	0	$0.00	$0.00	$0.00	$0.00
Safety Net Additive (SNA)	$0	0	$0.00	$0.00	$0.00	$0.00
Safety Valve Support (SVS)	$0	0	$0.00	$0.00	$0.00	$0.00
Local Switching Support (LSS)	$0	0	$0.00	$0.00	$0.00	$0.00
Interstate Common Line Support (ICLS)	$266,197,320	3,870,828	$5.73	$6.10	$6.32	$6.89
Interstate Access Support (IAS)	$511,944,624	109,360,919	$0.39	$0.19	$1.40	$2.62
High Cost Model Support#	$348,559,066	11,724,175	$2.48	$1.17	$6.40	$6.51
All High Cost Fund Support for Non-Rural Only Study Areas	$1,126,701,017	126,215,134	$0.74	$0.17	$5.15	$7.04

*** Supported Lines are those reported for study areas that received non-zero funding from each respective program. USAC reports some study areas with lines that receive zero funding for each respective program.**

 # USAC reports High Cost Model Support by Study Area, but does not list the total number of supported loops. For this table, the number of HCM supported lines is the maximum total lines reported for a given study area receiving non-zero HCM support.

^ 172 of the 1,801 study areas that receive non-zero support have some lines supported by IAS classified as rural, and some as non-rural. 171 of these are served by Competitive carriers, accounting for 99.33% of all lines in these 172 Study Areas.

+ Weighted based on number of loops in each study area, reported for each program. For the monthly per line support values for the entire High Cost Fund, the maximum lines reported for each study area is used.

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

Incumbent lines account for three-quarters of all High Cost Fund-subsidized lines, with the bulk being IAS program lines. Half of all Incumbent supported lines receive less than 26 cents per line per month of HCF support, while 95% of all incumbent lines are supported at a cost of less than $10 per month per line. Competitive carriers receive a similar level of support, with a median per line monthly cost of 62 cents, and a 95th percentile per line monthly cost of $13.59 (see Figure 6). Given that competitive support is based on the incumbent's costs, these similarities are not too surprising.

Figure 6: Per Line Monthly High Cost Fund Support by Program and Carrier Type (Projected 2008)

Incumbent Carrier Study Areas

High Cost Program (Incumbent Carriers Only)	Annual Cost (est. 2008)	Supported Lines*	Average Monthly Per Supported Line Cost+	Median Monthly Per Supported Line Cost+	95th Percentile Monthly Per Supported Line Cost+	99th Percentile Monthly Per Supported Line Cost+
High Cost Loop (HCL)	$1,033,675,776	7,113,957	$12.11	$6.60	$38.83	$84.68
Safety Net Additive (SNA)	$30,112,728	1,406,065	$1.78	$1.41	$3.88	$6.86
Safety Valve Support (SVS)	$681,780	64,005	$0.89	$0.63	$2.96	$3.51
Local Switching Support (LSS)	$340,104,000	6,988,765	$4.06	$2.80	$11.07	$21.32
Interstate Common Line Support (ICLS)	$1,015,043,136	11,335,267	$7.46	$5.67	$19.51	$39.19
Interstate Access Support (IAS)	$496,126,380	86,687,624	$0.48	$0.20	$1.67	$3.99
High Cost Model Support#	$184,685,242	7,349,411	$2.09	$1.17	$6.06	$6.06
All High Cost Fund Support for Incumbent Carriers	$3,100,429,045	112,100,987	$2.30	$0.26	$9.85	$40.16

Competitive Carrier Study Areas

High Cost Program (Competitive Carriers Only)	Annual Cost (est. 2008)	Supported Lines*	Average Monthly Per Supported Line Cost+	Median Monthly Per Supported Line Cost+	95th Percentile Monthly Per Supported Line Cost+	99th Percentile Monthly Per Supported Line Cost+
High Cost Loop (HCL)	$443,887,716	3,726,072	$9.93	$7.68	$25.93	$59.80
Safety Net Additive (SNA)	$12,646,680	1,029,238	$1.02	$0.94	$2.83	$2.83
Safety Valve Support (SVS)	$339,888	91,622	$0.31	$0.11	$0.69	$0.72
Local Switching Support (LSS)	$134,992,980	3,680,809	$3.06	$2.16	$8.33	$9.22
Interstate Common Line Support (ICLS)	$575,072,460	5,847,696	$8.20	$6.30	$15.35	$29.96
Interstate Access Support (IAS)	$190,448,124	33,033,439	$0.48	$0.31	$1.60	$2.06
High Cost Model Support#	$163,873,824	4,491,178	$3.04	$1.83	$6.40	$8.68
All High Cost Fund Support for Competitive Carriers	$1,521,261,675	37,322,661	$3.40	$0.62	$13.59	$23.11

*** Supported Lines are those reported for study areas that received non-zero funding from each respective program. USAC reports some study areas with lines that receive zero funding for each respective program. There are 3 Study Areas (all served by Competitive carriers) that recieve support, but report zero lines.**

 # USAC reports High Cost Model Support by Study Area, but does not list the total number of supported loops. For this table, the number of HCM supported lines is the maximum total lines reported for a given study area receiving non-zero HCM support.

+ Weighted based on number of loops in each study area, reported for each program. For the monthly per line support values for the entire High Cost Fund, the maximum lines reported for each study area is used.

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

The per line monthly support data in Figures 3-6 seem to indicate that a substantial amount of lines that are supported by the Universal Service Fund receive relatively small amounts of per line support. This calls into question the need for such support for given the Act's requirement for "reasonably comparable" rates. Arguably, it does not seem unreasonable for rates in rural areas to be a few dollars higher than in

urban areas (and in fact, many state regulators keep rural rates *below* the level in urban areas).

Furthermore, many of these supported lines are either located in markets with telephony service offered by multiple non-USF supported companies (such as VoIP over cable or non-USF supported mobile wireless carriers), or they are USF-supported lines offered by carriers whose rates are not regulated in any fashion (such as wireless CETCs).

Thus it is possible that some USF supported carriers are receiving small amounts of per line support without any associated reduction in consumer prices (i.e. mobile wireless providers, who are not rate-regulated). It is also possible that incumbent carriers are receiving USF support that enables them to hold their retail rates below cost in the face of competition from other unregulated technologies that offer a higher level of service (such as VoIP over broadband offered by cable companies or fixed terrestrial wireless companies). In the incumbent LEC case we of course recognize that their rates are often set at a fixed level by state authorities (and by the FCC in the case of the SLC). However, as we will discuss below, over a dozen states have completely or near completely deregulated retail rates charged by incumbent LECs. Furthermore, the majority of incumbent USF funds are distributed to price-cap regulated carriers, who arguably under the incentive-regulation scheme have the ability to operate profitably without universal service support.[21]

[21] The Joint Board and the Commission of course rejected this notion when first establishing the High Cost Fund in 1996. See *1996 Recommended Decision*, paragraph 158; *1996 Universal Service Order*, paragraph 145. The Commission did so noting that "price cap regulation is an important tool for smoothing the transition to competition and that its use should not foreclose price cap companies from receiving universal service

Given the nature of the converged marketplace that has emerged since the 1996 Act, and the essential nature of broadband infrastructure (which supports essential applications such as telephony and email), it is worth knowing what portion of the fund goes to funding telephony lines that require relatively minor amounts of per-line monthly support. Such funding could arguably be diverted towards supporting rural broadband infrastructure, without significantly impacting telephony subscribers and maintaining the principles of reasonably comparable rates and competitive neutrality.

It turns out that a *substantial* amount of the HCF is used to offer marginal per line support. Half of the $4.6 billion High Cost Fund goes to supporting lines that require less than $15 per month in per line support. A full 70 percent of the fund goes to supporting lines that require less than $30 per month in per line support (see Figure 7). Stated another way, 94 percent of all HCF lines receive less than $10 per month in support, while only 1.3 percent of all HCF lines receive more than $30 per month in support. In total, $1.9 billion annually goes to support lines requiring less than $10 per month each, while $3.3 billion annually goes to support lines requiring less than $30 per month each in funding. If we accept the Joint Board's recommendation that broadband should be a universal supported service, and if the fund must be held at the current level, then the logical conclusion is that the funds going to lines with only marginal support needs would be better utilized for funding broadband infrastructure builds in unserved areas.

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support." It seems that now 12 years later in marketplace of convergence with many price cap carriers offering non-rate regulated services (broadband and/or television) and some price cap carriers relived by states from rate regulation, that is may be worth revisiting this decision.

Figure 7: Per Line Monthly High Cost Fund Support by Cost - All Carriers (Projected 2008)

All Carriers

Amount of High Cost Support Per Line is...	Number of Lines	Percent of All Supported Lines*	Total Annual High Cost Support	Percent of High Cost Fund
Less than $10 Per Month	140,480,041	94.0%	$1,851,907,533	40.1%
Less than $20 Per Month	145,481,992	97.4%	$2,678,263,068	57.9%
Less than $30 Per Month	147,526,129	98.7%	$3,275,332,660	70.9%
Less than $40 Per Month	148,195,881	99.2%	$3,549,867,485	76.8%
Less than $50 Per Month	148,659,840	99.5%	$3,797,848,493	82.2%
Less than $60 Per Month	148,893,982	99.6%	$3,952,949,669	85.5%
Less than $75 Per Month	149,099,449	99.8%	$4,118,967,737	89.1%
Less than $100 Per Month	149,227,811	99.9%	$4,252,282,001	92.0%
Less than $500 Per Month	149,419,859	100.0%	$4,565,940,761	98.8%
Less than $1000 Per Month	149,420,550	100.0%	$4,571,440,145	98.9%
Less than $1433 Per Month	149,423,648	100.0%	$4,621,690,721	100.0%

*** Supported Lines are the maximum reported for study areas that received non-zero funding. There are 149,423,648 lines that received some type of high-cost funding.**

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

To put the above data into perspective, consider that the average per month cost of local exchange service is approximately $36.[22] Contrast that with the average per month cost of cable broadband Internet of $41[23] and the cost of unlimited-calling full-featured VoIP service at $25 per month.[24] Also consider that cable modem service is available to approximately 93 percent of all U.S. households, including many of those in

[22] *See* Trends in Telephone Service, Industry Analysis and Technology Division Wireline Competition Bureau, February 2007, Table 3-2. In 2005 the average monthly household expenditure for local exchange service was $36, with long distance wireline service accounting for an additional $8, though this survey counted bundled wireline local and long distance service as purely local. Wireless service accounted for an average of $53 in monthly expenditures per household.

[23] *See* John B. Horrigan, "Home Broadband Adoption 2006," Pew Internet & American Life Project, May 28, 2006.

[24] Vonage's Residential Premium Unlimited VoIP plan offers the following for $24.99 a month: Unlimited local and long distance in the US, Canada, and Puerto Rico; free calls to landline phones in Italy, France, Spain, UK and Ireland; plus 25 additional calling features like call waiting, voicemail and caller ID.

USF-supported areas. Thus, for a total cost of $66, a consumer who lived in a USF-supported study area that is also served by a cable modem provider could pay $66 per month for unlimited broadband Internet access *and* unlimited local and long distance calling; or that same consumer could pay $36 for local exchange service, subsidized by USF. Now assume that the per line USF support was $30 per month, a reasonable assumption given that 70% of supported lines receive less than this amount. In that case, if USF funds were not available, the cost of local-calling-only telephone service would be *equal* to the cost of high-speed broadband plus unlimited local-and-long-distance VoIP services.

This possible real-world example illustrates just exactly why the continued focus on telephony in a broadband era runs counter to the modernization principles of universal service as embodied in the 1996 Act, and counter to the principle of competitive neutrality adopted by the Commission in 1996. It could be argued that the continued support of lines that require less than $30 per month in per line support (99 percent of all HCF-supported lines) sends the wrong economic signals to the market, and impedes the transition into broadband era. Also consider the fact that a full 30 percent of all high cost funding goes to support competitive carrier lines needing less than $30 per month of per line support *based not on their own per line costs but on the ILEC's* (see Figure 8), and the fact that the subscribers of the vast majority of these lines do not benefit from rate regulation.

Figure 8: Per Line Monthly High Cost Fund Support by Cost and Carrier Type (Projected 2008)

Incumbent Carriers

Amount of High Cost Support Per Line is...	Number of Lines	Percent of All Supported Lines*	Percent of All Supported Incumbent Lines	Total Annual High Cost Support	Percent of High Cost Fund	Percent of All Incumbent's Share of High Cost Fund
Less than $10 Per Month	106,608,541	71.3%	95.1%	$1,055,071,945	22.8%	34.0%
Less than $20 Per Month	109,003,109	72.9%	97.2%	$1,464,650,905	31.7%	47.2%
Less than $30 Per Month	110,385,014	73.9%	98.5%	$1,881,054,637	40.7%	60.7%
Less than $40 Per Month	110,964,648	74.3%	99.0%	$2,118,003,481	45.8%	68.3%
Less than $50 Per Month	111,393,131	74.5%	99.4%	$2,346,546,829	50.8%	75.7%
Less than $60 Per Month	111,609,186	74.7%	99.6%	$2,489,769,661	53.9%	80.3%
Less than $75 Per Month	111,795,106	74.8%	99.7%	$2,640,669,457	57.1%	85.2%
Less than $100 Per Month	111,921,656	74.9%	99.8%	$2,771,838,565	60.0%	89.4%
Less than $500 Per Month	112,098,380	75.0%	100.0%	$3,064,254,313	66.3%	98.8%
Less than $1000 Per Month	112,099,071	75.0%	100.0%	$3,069,753,697	66.4%	99.0%
Less than $1433 Per Month	112,100,987	75.0%	100.0%	$3,100,429,045	67.1%	100.0%

Competitive Carriers

Amount of High Cost Support Per Line is...	Number of Lines	Percent of All Supported Lines*	Percent of All Supported Competitive Lines	Total Annual High Cost Support	Percent of High Cost Fund	Percent of All Competitive Carriers' Share of High Cost Fund
Less than $10 Per Month	33,871,500	22.7%	90.8%	$796,835,587	17.2%	52.4%
Less than $20 Per Month	36,478,883	24.4%	97.7%	$1,213,612,163	26.3%	79.8%
Less than $30 Per Month	37,141,115	24.9%	99.5%	$1,394,278,023	30.2%	91.7%
Less than $40 Per Month	37,231,233	24.9%	99.8%	$1,431,864,003	31.0%	94.1%
Less than $50 Per Month	37,266,709	24.9%	99.9%	$1,451,301,663	31.4%	95.4%
Less than $60 Per Month	37,284,796	25.0%	99.9%	$1,463,180,007	31.7%	96.2%
Less than $75 Per Month	37,304,343	25.0%	100.0%	$1,478,298,279	32.0%	97.2%
Less than $100 Per Month	37,306,155	25.0%	100.0%	$1,480,443,435	32.0%	97.3%
Less than $500 Per Month	37,321,479	25.0%	100.0%	$1,501,686,447	32.5%	98.7%
Less than $1000 Per Month	37,321,479	25.0%	100.0%	$1,501,686,447	32.5%	98.7%
Less than $1381 Per Month	37,322,661	25.0%	100.0%	$1,521,261,675	32.9%	100.0%

*** Supported Lines are the maximum reported for study areas that received non-zero funding. There are 149,442,187 lines that received some type of high-cost funding. 112,100,987 of these are Incumbent lines. 37,322,661 of these are Competitive Carrier lines.**

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

This latter point is very important, as the continued need for USF support should be tied in some manner to both actual costs *and* a tangible consumer benefit in the form of a proportional lowering of the retail service cost. In the case of non-rate regulated carriers, it is not at all clear that this consumer benefit exists.

Questioning the need for USF support to maintain "reasonably comparable" rates is certainly justified for those carriers whose rates are not regulated and whose own costs are likely far lower than the subsidy received. But the data seem to indicate that the need for continued high cost funding to keep non-rural carrier's rates "reasonably comparable"

is also questionable. Non-rural carrier lines requiring less than $10 per month in per line support account for nearly 100 percent of all non-rural supported lines, and nearly 100 percent of the $1.13 billion in high cost funding going to non-rural carriers (see Figure 9).

Figure 9: Per Line Monthly High Cost Fund Support by Cost and Study Area Type (Projected 2008)

Carriers Operating in Rural Study Areas

Amount of High Cost Support Per Line is...	Number of Lines	Percent of All Supported Lines*	Percent of All Supported Rural SA Lines	Total Annual High Cost Support	Percent of High Cost Fund	Percent of All Rural SA's Share of High Cost Fund
Less than $10 Per Month	15,584,230	10.4%	65.5%	$563,663,232	12.2%	16.1%
Less than $20 Per Month	19,123,572	12.8%	80.3%	$1,181,434,656	25.6%	33.8%
Less than $30 Per Month	21,384,629	14.3%	89.8%	$1,850,241,984	40.0%	52.9%
Less than $40 Per Month	22,394,598	15.0%	94.1%	$2,272,717,632	49.2%	65.0%
Less than $50 Per Month	22,971,304	15.4%	96.5%	$2,581,050,228	55.8%	73.9%
Less than $60 Per Month	23,206,815	15.5%	97.5%	$2,737,086,528	59.2%	78.3%
Less than $75 Per Month	23,415,457	15.7%	98.4%	$2,905,751,796	62.9%	83.1%
Less than $100 Per Month	23,603,208	15.8%	99.2%	$3,107,320,956	67.2%	88.9%
Less than $500 Per Month	23,795,928	15.9%	100.0%	$3,424,639,944	74.1%	98.0%
Less than $1000 Per Month	23,796,619	15.9%	100.0%	$3,430,139,328	74.2%	98.1%
Less than $1433 Per Month	23,800,599	15.9%	100.0%	$3,494,989,704	75.6%	100.0%

Carriers Operating in Non-Rural Study Areas

Amount of High Cost Support Per Line is...	Number of Lines	Percent of All Supported Lines*	Percent of All Supported Non-Rural SA Lines	Total Annual High Cost Support	Percent of High Cost Fund	Percent of All Non-Rural SA's Share of High Cost Fund
Less than $1 Per Month	105,397,072	70.5%	83.5%	$279,337,987	6.0%	24.8%
Less than $5 Per Month	119,700,529	80.1%	94.8%	$625,255,977	13.5%	55.5%
Less than $10 Per Month	126,205,575	84.5%	100.0%	$1,124,833,040	24.3%	99.8%
Less than $15 Per Month	126,210,574	84.5%	100.0%	$1,125,546,490	24.4%	99.9%
Less than $20 Per Month	126,210,574	84.5%	100.0%	$1,125,546,490	24.4%	99.9%
Less than $25 Per Month	126,215,134	84.5%	100.0%	$1,126,701,017	24.4%	100.0%

*** Supported Lines are the maximum reported for study areas that received non-zero funding. There are 149,423,648 lines that received some type of high-cost funding. 23,800,599 of these are lines in Rural Study Areas. 126,215,134 of these are lines in Non-Rural Study Areas.**

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

Figure 9 shows that the monthly per line cost burden is much higher for carriers operating in rural study areas as compared to those operating in non-rural study areas. But even here the relative support burden is still relatively small for the vast majority of lines. Over 65 percent of the lines in rural study areas receive less than $10 per month in per line high cost support. Nearly 90 percent of the lines in rural study areas receive less

than $30 per month in per line high cost support, accounting for 53 percent of all funding going to carriers in rural study areas. The data in Figure 9 also indicates where the focus of the High Cost Fund should be directed -- on the lines with monthly per line support needs above $30, or the 2.4 million lines in rural areas that currently receive $1.6 billion in annual high cost fund support.

Figure 10 details the distribution of per line monthly costs for each of the seven High Cost Fund programs. The Interstate Access Support and High Cost Model programs all have very low per line monthly support costs accounting for virtually all of the lines supported by these programs. The amount of per line support for the Safety Net Additive and Safety Valve Support programs are also low, with the most expensive lines requiring less than $7 per month in per line support. The High Cost Loop, Local Switching Support and Interstate Common Line Support programs have lines with substantially higher monthly support needs. But even here a significant amount of the funding goes to support lines at a level of $30 or less per month per line.

Figure 10: Per Line Monthly High Cost Fund Support by Program (Projected 2008)

High Cost Loop Program - All Study Areas

Amount of High Cost Loop Support Per Line is...	Number of Lines	Percent of All Supported Lines*	Percent of All Supported HCL Program Lines	Total Annual High Cost Support	Percent of High Cost Fund	Percent of All HCL Program's Share of High Cost Fund
Less than $10 Per Month	6,866,115	4.6%	63.3%	$345,622,956	7.5%	23.4%
Less than $20 Per Month	9,336,877	6.2%	86.1%	$758,525,436	16.4%	51.3%
Less than $30 Per Month	10,174,586	6.8%	93.9%	$1,002,935,784	21.7%	67.9%
Less than $40 Per Month	10,407,680	7.0%	96.0%	$1,101,375,348	23.8%	74.5%
Less than $50 Per Month	10,540,593	7.1%	97.2%	$1,172,585,832	25.4%	79.4%
Less than $60 Per Month	10,687,302	7.2%	98.6%	$1,272,924,540	27.5%	86.2%
Less than $75 Per Month	10,730,965	7.2%	99.0%	$1,308,146,760	28.3%	88.5%
Less than $100 Per Month	10,805,607	7.2%	99.7%	$1,386,819,276	30.0%	93.9%
Less than $500 Per Month	10,836,049	7.3%	100.0%	$1,436,086,524	31.1%	97.2%
Less than $876 Per Month	10,840,029	7.3%	100.0%	$1,477,563,492	32.0%	100.0%

*** Supported Lines are the maximum reported for the HCL program in study areas that received non-zero HCL funding. There are 149,423,648 lines that received some type of high-cost funding. 10,840,029 of these are lines receive High Cost Fund Program support.**

Safety Net Additive Program - All Study Areas

Amount of Safety Net Additive Support Per Line is...	Number of Lines	Percent of All Supported Lines*	Percent of All Supported SNA Program Lines	Total Annual High Cost Support	Percent of High Cost Fund	Percent of All SNA Program's Share of High Cost Fund
Less than $1 Per Month	792,314	0.5%	32.5%	$6,047,976	0.1%	14.1%
Less than $2 Per Month	1,934,999	1.3%	79.5%	$24,505,704	0.5%	57.3%
Less than $3 Per Month	2,290,954	1.5%	94.1%	$35,302,956	0.8%	82.6%
Less than $4 Per Month	2,398,493	1.6%	98.5%	$40,213,056	0.9%	94.0%
Less than $5 Per Month	2,409,883	1.6%	99.0%	$40,793,160	0.9%	95.4%
Less than $6 Per Month	2,415,673	1.6%	99.2%	$41,168,844	0.9%	96.3%
Less than $7 Per Month	2,435,303	1.6%	100.0%	$42,759,408	0.9%	100.0%

*** Supported Lines are the maximum reported reported for the SNA program in study areas that received non-zero SNA funding. There are 149,423,648 lines that received some type of high-cost funding. 2,434,303 of these are lines receive Safety Net Additive Program support.**

Safety Valve Support Program - All Study Areas

Amount of Safety Valve Support Per Line is...	Number of Lines	Percent of All Supported Lines*	Percent of All Supported SVS Program Lines	Total Annual High Cost Support	Percent of High Cost Fund	Percent of All SVS Program's Share of High Cost Fund
Less than $1 Per Month	147,842	0.1%	95.0%	$749,556	0.0%	73.4%
Less than $2 Per Month	149,577	0.1%	96.1%	$788,652	0.0%	77.2%
Less than $3 Per Month	152,881	0.1%	98.2%	$901,272	0.0%	88.2%
Less than $4 Per Month	155,505	0.1%	99.9%	$1,011,708	0.0%	99.0%
Less than $5 Per Month	155,505	0.1%	99.9%	$1,011,708	0.0%	99.0%
Less than $6 Per Month	155,505	0.1%	99.9%	$1,011,708	0.0%	99.0%
Less than $7 Per Month	155,627	0.1%	100.0%	$1,021,668	0.0%	100.0%

*** Supported Lines are the maximum reported for the SVS program in study areas that received non-zero SVS funding. There are 149,423,648 lines that received some type of high-cost funding. 155,627 of these are lines receive Savety Valve Support Program support.**

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

Figure 10 (continued): Per Line Monthly High Cost Fund Support by Program (Projected 2008)

Local Switching Support Program - All Study Areas

Amount of Local Switching Support Per Line is...	Number of Lines	Percent of All Supported Lines*	Percent of All Supported LSS Program Lines	Total Annual High Cost Support	Percent of High Cost Fund	Percent of All LSS Program's Share of High Cost Fund
Less than $1 Per Month	1,227,551	0.8%	11.5%	$9,813,372	0.2%	2.1%
Less than $5 Per Month	8,273,924	5.5%	77.5%	$225,055,536	4.9%	47.4%
Less than $10 Per Month	10,229,400	6.8%	95.9%	$384,705,216	8.3%	81.0%
Less than $25 Per Month	10,624,552	7.1%	99.6%	$452,561,388	9.8%	95.3%
Less than $50 Per Month	10,656,518	7.1%	99.9%	$464,846,436	10.1%	97.8%
Less than $75 Per Month	10,668,330	7.1%	100.0%	$473,387,076	10.2%	99.6%
Less than $100 Per Month	10,668,830	7.1%	100.0%	$473,871,960	10.3%	99.7%
Less than $240 Per Month	10,669,574	7.1%	100.0%	$475,096,980	10.3%	100.0%

*** Supported Lines are the maximum reported for the LSS program in study areas that received non-zero LSS funding. There are 149,423,648 lines that received some type of high-cost funding. 10,669,574 of these are lines receive Local Switching Support Program support.**

Interstate Common Line Support Program - All Study Areas

Amount of Interstate Common Line Support Per Line is...	Number of Lines	Percent of All Supported Lines*	Percent of All Supported ICLS Program Lines	Total Annual High Cost Support	Percent of High Cost Fund	Percent of All ICLS Program's Share of High Cost Fund
Less than $10 Per Month	13,653,981	9.1%	79.5%	$859,830,024	18.6%	54.1%
Less than $20 Per Month	16,515,781	11.1%	96.1%	$1,319,352,816	28.5%	83.0%
Less than $30 Per Month	16,944,175	11.3%	98.6%	$1,446,262,944	31.3%	91.0%
Less than $40 Per Month	17,075,073	11.4%	99.4%	$1,501,361,304	32.5%	94.4%
Less than $50 Per Month	17,130,412	11.5%	99.7%	$1,531,387,584	33.1%	96.3%
Less than $60 Per Month	17,154,940	11.5%	99.8%	$1,547,120,232	33.5%	97.3%
Less than $75 Per Month	17,175,437	11.5%	100.0%	$1,562,713,368	33.8%	98.3%
Less than $100 Per Month	17,176,156	11.5%	100.0%	$1,563,462,384	33.8%	98.3%
Less than $500 Per Month	17,182,941	11.5%	100.0%	$1,589,896,872	34.4%	100.0%
Less than $829 Per Month	17,182,963	11.5%	100.0%	$1,590,115,596	34.4%	100.0%

*** Supported Lines are the maximum reported for the ICLS program in study areas that received non-zero ICLS funding. There are 149,423,648 lines that received some type of high-cost funding. 17,182,963 of these are lines receive Interstate Common Line Support Program support.**

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

Figure 10 (continued): Per Line Monthly High Cost Fund Support by Program (Projected 2008)

Interstate Access Support Program - All Study Areas

Amount of Interstate Access Support Per Line is...	Number of Lines	Percent of All Supported Lines*	Percent of All Supported IAS Program Lines	Total Annual High Cost Support	Percent of High Cost Fund	Percent of All IAS Program's Share of High Cost Fund
Less than $1 Per Month	106,098,392	71.0%	88.6%	$361,278,924	7.8%	52.6%
Less than $2 Per Month	115,589,506	77.4%	96.5%	$518,840,124	11.2%	75.6%
Less than $3 Per Month	118,003,107	79.0%	98.6%	$589,203,648	12.7%	85.8%
Less than $4 Per Month	119,025,558	79.7%	99.4%	$633,369,528	13.7%	92.3%
Less than $5 Per Month	119,268,600	79.8%	99.6%	$646,393,788	14.0%	94.1%
Less than $10 Per Month	119,710,146	80.1%	100.0%	$684,834,408	14.8%	99.7%
Less than $15 Per Month	119,719,921	80.1%	100.0%	$686,227,548	14.8%	99.9%
Less than $20 Per Month	119,719,921	80.1%	100.0%	$686,227,548	14.8%	99.9%
Less than $26 Per Month	119,721,063	80.1%	100.0%	$686,574,504	14.9%	100.0%

*** Supported Lines are the maximum reported for the IAS program in study areas that received non-zero IAS funding. There are 149,423,648 lines that received some type of high-cost funding. 119,721,063 of these are lines receive Interstate Access Support Program support.**

High Cost Model Program - All Study Areas

Amount of High Cost Model Per Line is...	Number of Lines	Percent of All Supported Lines*	Percent of All Supported HCM Program Lines	Total Annual High Cost Support	Percent of High Cost Fund	Percent of All HCM Program's Share of High Cost Fund
Less than $1 Per Month	4,795,472	3.2%	40.5%	$33,608,609	0.7%	9.6%
Less than $2 Per Month	7,289,303	4.9%	61.6%	$74,859,030	1.6%	21.5%
Less than $3 Per Month	8,243,844	5.5%	69.6%	$102,547,816	2.2%	29.4%
Less than $4 Per Month	9,005,655	6.0%	76.1%	$134,930,277	2.9%	38.7%
Less than $5 Per Month	9,033,791	6.0%	76.3%	$136,383,018	3.0%	39.1%
Less than $10 Per Month	11,836,029	7.9%	100.0%	$347,504,167	7.5%	99.7%
Less than $15 Per Month	11,836,029	7.9%	100.0%	$347,504,167	7.5%	99.7%
Less than $20 Per Month	11,839,664	7.9%	100.0%	$348,283,958	7.5%	99.9%
Less than $25 Per Month	11,840,589	7.9%	100.0%	$348,559,066	7.5%	100.0%

*** Supported Lines are the maximum reported for study areas that received non-zero funding. There are 149,423,648 lines that received some type of high-cost funding. 11,840,589 of these are lines are in study areas that receive High Cost Model Program support.**

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

These data are very informative, for if the Commission is serious about implementing a USF reform plan that is truly modernizing, then funds will have to be shifted and short-term sacrifices will have to be made to achieve long-term benefits. However, we should make it very clear that we are not very comfortable with the notion of consumer rates for basic telephone service rising -- indeed, because of convergence and joint/common cost we'd fully expect such rates to be declining precipitously. Nor are we very comfortable with the notion that we are moving into a world of a broadband

duopoly where consumers are at the whim of profit maximizing companies unconstrained by the disciplining forces of a truly competitive market. But meaningful USF reform requires upsetting the status quo, leading to short-term discomfort all around. We recognize that the utility consumers derive from broadband services are far greater than that of telephony, and that given the choice between slightly higher telephony rates or new broadband service in unserved areas, we'd choose the latter. Though millions of Americans currently benefit from subsidized telephony, those subsidies are paid by millions more who reap very small indirect benefits from the fund. A shifting of funds towards broadband would greatly increase the direct benefits to those receiving the new services, and it would also vastly improve the indirect benefits to those paying for the bulk of the subsidy.

The path of universal service policy has reached a fork in the road, where there are difficult choices to be made. We feel that in the long run, the greatest level of social and consumer benefits can only be achieved by transitioning away from telephony support and increasing support for broadband infrastructure deployment.

ii. Modernizing the Fund to Support Broadband in a Cost-Efficient Manner: Redirecting Support to Broadband

We now move to constructing the architecture for a new modernized universal service High Cost Fund. We begin by answering some key questions in order to define the scope of the problem and the funding needs:

- How many U.S. homes have no access to broadband service?
- What quality level constitutes a reasonably comparable and potentially future-proof definition of broadband service?
- How much will it cost to deploy this service to all unserved areas?
- And what will be the expected level of ongoing support needed to ensure that the new HCF-supported infrastructure can be maintained at an end-user cost that is reasonably comparable to the national average?

While there is no definitive inventory of U.S. premises that lack the ability to subscribe to broadband service, there are a few data points that allow us to formulate a reasonable estimate of the true number of unserved households. First, the National Cable and Telecommunications Association estimates that 99 percent of U.S. households are passed by cable television service.[25] FCC Form 477 data indicates that 96 percent of homes where cable service is available have access to cable modem service.[26] From this we conclude that as many as 95 percent of all U.S. homes can purchase cable modem broadband service; that is, at least 6 million of the nearly 118 million U.S. households lack the ability to subscribe to cable modem broadband.[27] Of course it is possible that

[25] *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 05-255, Twelfth Annual Report, (released March 3, 2006), paragraph 30.

[26] *High-Speed Services for Internet Access: Status as of December 31, 2006*, Industry Analysis and Technology Division, Wireline Competition Bureau, Table 14.

[27] The figure for the total number of U.S. households varies depending on the particular U.S. Census Bureau source used. The October 2007 Current Population Survey puts the total number of U.S. households at 117,840,000. The 2006 American Community Survey estimated 111,617,402 U.S. households, while the 2005 ACS

some of these homes that lack cable modem access can purchase DSL service. Form 477 data indicates that 79 percent of ILEC lines are DSL capable. But Form 477 provides no estimate of how the cable modem and DSL availability figures overlap. Anecdotal evidence suggest that a non-insignificant number of the "broadband" cable modem and DSL lines serving rural areas offer maximum speeds that are substantially slower than those offered in urban areas. So while there may be DSL service available in areas without cable modem service (and of course vice versa), we feel that an estimate of between 6 and 8 million homes unserved by broadband is reasonable.[28]

To answer the question of what constitutes a minimal level of service quality to merit the definition of "broadband", we will rely on the statutory guidance laid out in Section 706 of the 1996 Act. The act defined the term "advanced telecommunications capability" as "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology."[29] Currently, the best available compression technology requires approximately 5 Mbps (5 million bits per second) in bandwidth to

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estimated 111,090,617 U.S. households. Thus it is unclear if the 2007 CPS number is accurate, as it seems high based on the 2005 and 2006 data.

[28] We are explicitly excluding satellite broadband from this estimate, as the high latency and slow speed (particularly on the upload side) of this service render it arguably substandard for the purposes of facilitating VoIP service. We also exclude fixed wireless service, which constitutes a very small percentage of all U.S. broadband lines (0.75% of all residential advanced service lines). And we specifically exclude mobile wireless broadband service, as the carrier's deployment of 3G capable services has been almost exclusively limited to urban and suburban areas. Furthermore, 3G speeds are still slow enough (especially on the upload side) to arguably not meet a reasonable definition of true broadband.

[29] See § 706(c) of the 1996 Act.

transmit reasonably high quality high-definition video content.[30] Thus, we will define the minimum level of broadband service quality for future USF support to be 5Mbps symmetrical, with latencies no lower than that needed to enable real-time VoIP calls of superior quality. However, while a 5Mbps symmetrical definition is adequate for the 2008 world, it may not be for the 2018 world. Thus, we will also define the quality level to include scalability: supported infrastructure should meet the 5Mbps symmetrical threshold, and be capable of scaling much higher with minimal additional cost.

Finally, we must estimate the initial and ongoing costs of providing the above-defined level of broadband service to the 6 to 8 million households that will be served under the reformed HCF. This is no easy task, as estimates depend completely on the particulars of each service area, as well as the type of technology used. While we ***do not*** propose the type of technology that the broadband High Cost Fund should support (see more below), for the purposes of estimation we will choose fiber-optic-to-the-home (FTTH) technology. We do this for two reasons. First, FTTH currently is the only consumer technology deployed that is capable of offering dedicated symmetrical bandwidths approaching (or exceeding) 100Mbps -- a bandwidth that is arguably "future-proof". Second, for the purposes of cost-estimations we feel it is prudent to be conservative -- i.e. to overestimate when possible. FTTH being a wireline technology is likely to have initial deployment costs that exceed fixed wireless or 4G mobile wireless

[30] The MPEG-4 codec, version h.264 (used notably by IP video service provider Apple) transmits HD video with an approximate average bitrate of 4.5Mbps. DBS providers also use MPEG-4 with a similar bit rate. The older MPEG-2 codec still in use by cable operators requires between 12 and 20 Mbps. In general, the more "action" or motion in the video, the higher the bitrate needed to maintain a constant level of quality.

(or any other wireless) technologies. FTTH is also likely to have higher initial costs than copper-based solutions like VDSL, but lower ongoing and maintenance costs.

Using FTTH as the proxy technology for cost estimates, we suggest that the 6-8 million unserved homes can be connected at an average cost ranging between $2,000 and $5,000 per home (see footnote for details).[31] Thus the total funding needed to serve all currently unserved homes could be as little as $12 billion or as much as $40 billion, with the likely cost falling somewhere between $25 and $30 billion. We further assume that the ongoing maintenance and operation (M&O) costs to be approximately 10 percent of the initial capital costs, or between $17 and $42 per month per home, with the likely

[31] This estimate is arrived at by synthesizing several sources and then making a good-faith guess. A 2001 study estimated an average cost of $1000 per home to wire every U.S. home with fiber (see "Broadband: Bringing Home the Bits," U.S. Computer Science and Telecommunications Board, November 2001). The Fiber to The Home Council now puts this at $800 per home (see www.ftthcouncil.org/UserFiles/File/ftthprimer_feb.pdf). Telecom consultant John Widhausen Jr. puts the figure at $1,000 per home (see net.educause.edu/ir/library/pdf/EPO0801.pdf). These estimates of course included the 21 percent of U.S. homes that are rural, as well as the 79 percent that are urban and suburban. The latter is where the country's largest provider of FTTH service, Verizon, has focused their deployment efforts. According to Verizon, their FTTH deployment costs continue to decline. In 2006 it cost Verizon $850 per home to deploy FTTH, down from $1,400 in 2004. By 2010 Verizon expects the FTTH deployment costs to decline to $700 per home (see http://newscenter.verizon.com/kit/nxtcomm/Product-sheet-FiOS-1Q07.pdf).Certainly the costs per home will be higher in rural areas because of the lower densities. A recent estimate by a rural Vermont FTTH company put the cost per rural home for FTTH at $2,900 ($1,100 to pass each rural home and $1,800 for the actual "hook up" of the home; see "Rural FTTP 'perfectly economical,' says Muni Fiber Veteran", *Telephony Online*, April 29, 2008). Of course some rural homes are more "rural" than others, while some unserved homes lie in urbanized clusters inside rural areas. It is possible that some of the most extreme rural homes will not see FTTH, instead being served by a high-capacity wireless solution such as LTE. Considering all of these factors, we feel that a cost estimate range of $2,000-$5,000 per unserved home is a reasonable and conservative value.

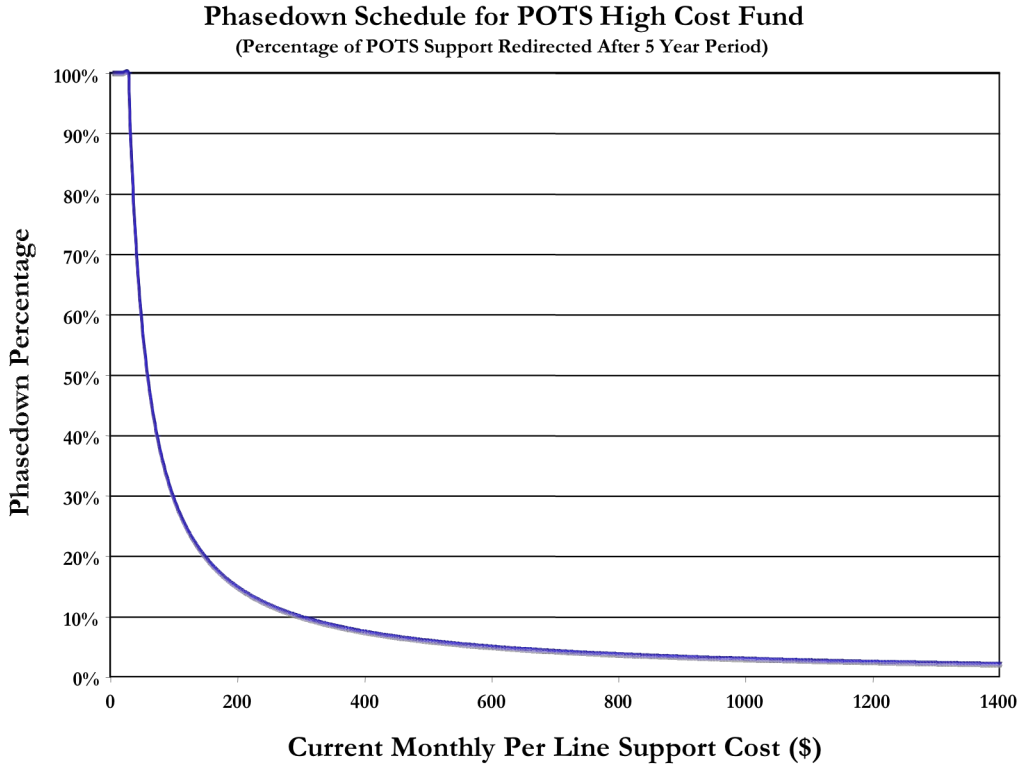
M&O cost falling around $30 per month per home.[32] That puts the total annual M&O costs at approximately $200 million for the entire project. Obviously all or a portion of this will be offset by user subscription fees, meaning for some study areas the M&O needs from the HCF will be minimal or non-existent.

Thus, the move to a modernized USF under our model will require approximately $30 billion for infrastructure deployment and a substantially smaller amount for ongoing operation and maintenance costs not recouped by end-user charges.

Now the question is, how do we pay for this? We suggest based on our analysis presented above that new broadband construction should be funded via a redirection of the telephony funds that provide only marginal monthly support. We feel that a value of $30 per month is a reasonable approximation that falls within the Act's requirement for "reasonably comparable" rates. Thus, we propose a "phasedown" schedule of $30 per line per month in high cost support, phased in over a 5-year period. So for lines that receive less than $30 per month in per line support, the phasedown will be 100 percent, or 20 percent per year for 5 years. For all other lines, the phasedown level is equal the percentage that decreases the support by $30 per month per line. Figure 11 shows the phasedown schedule for the 5-year period.

[32] This is a very rough estimate based on various financial details of other publicly funded FTTH deployments. See for example, Uptown Services, LLC, "Network Planning Study", (Greenwood, Colorado, 2002).

Figure 11: Phasedown Schedule:
Percentage of Current HCF POTS Support Phased-Down Over a 5-Year Period

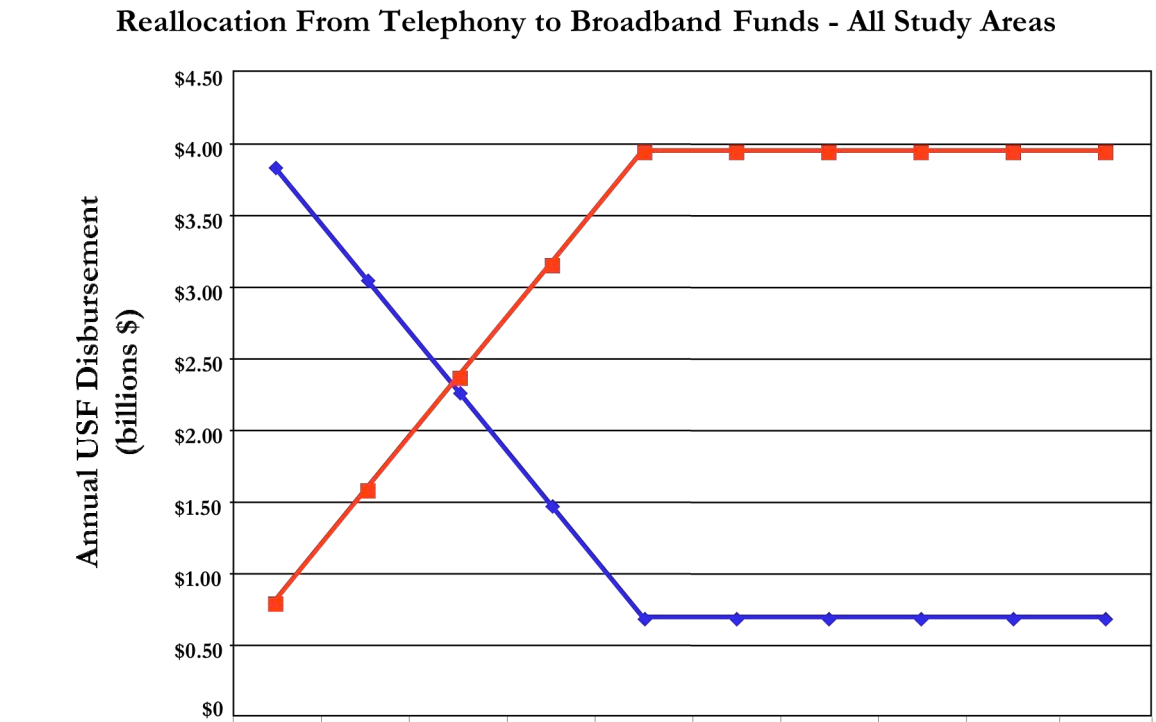


Source: Author's Calculations

During the 5-year phasedown period a larger and larger pool of money will be directed to the new Broadband High Cost Fund (BB HCF). After the 5-year phasedown there will be approximately $4 billion in annual funds for the BB HCF. Also, after the 5-year phasedown period, there will be approximately $682 million in annual support remaining for the "old" High Cost Fund (to support legacy telephony service in the "very high cost" areas whose per line monthly support needs are above $30). However, we note that many of these "very high cost" service areas will be those being served by the new Broadband High Cost Fund. Thus, this pool of nearly $700 million annually can be used for the ongoing support needs in these areas, as well as used to subsidize VoIP telephony for those low-income families needing additional support (more on these aspects below).

We propose that the length of the Broadband High Cost Fund be 10 years total -- the initial 5-year phasedown followed by a 5-year further construction period. During this time, approximately $31.5 billion in total funds will be reallocated from the old telephony High Cost Fund to the Broadband High Cost Fund. This amount is roughly equal to the amount we estimate it will cost to deploy next-generation broadband service to the 6 to 8 million unserved homes. Figure 12 details the distribution of funding between the "old" and "new" High Cost Funds during each year of the 10-year proposal.

Figure 12: The 10-Year Transition From Telephony to Broadband HCF (Amount allocated to each fund, billions $)



Year	1	2	3	4	5	6	7	8	9	10
Total To Old HCF	$3.83	$3.05	$2.26	$1.47	$0.68	$0.68	$0.68	$0.68	$0.68	$0.68
Total To BB HCF	$0.79	$1.58	$2.36	$3.15	$3.94	$3.94	$3.94	$3.94	$3.94	$3.94

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

Because the new funds for broadband support are redirected by a phasedown of support for the "low-cost" high-cost lines, the carriers most impacted by this framework

or those whose lines require only marginal monthly support. From our above analysis we see that this impacts all carriers regardless of study area type (rural or non-rural) or ETC status (incumbent or competitive). However, the relative burden does fall more heavily on non-rural and competitive carriers, as a substantial amount of their support is for lines needing less than $30 per month per line. Recall from Figure 8 that 92 percent of competitive carrier's funding is for lines needing less than $30 per month, while 61 percent of incumbent carrier's funding is for lines requiring less than $30 per month per line. Similarly, Figure 9 indicated that 100 percent of the lines in non-rural study areas get less than $30 per month in per line support, while only 53 percent of the lines in rural study areas require less than $30 per month per line. Figure 13 details the impact of fund redistribution during the 10-year BB HCF period for rural and non-rural study areas, as well as incumbent and competitive carriers (note that in this Figure the values under columns labeled "Total to New HCF" represent the amount of funding under the current model for these study areas or ETC-carrier-types that will instead be redirected to the BB HCF. These values ***do not*** represent the amount of funding that these study areas or ETC-carrier-types will receive under the BB HCF).

Figure 12: The 10-Year Transition From Telephony to Broadband HCF by Study Area and Carrier Type

Year	Redistributions From Carriers in Rural Study Areas		Redistributions From Carriers in Non-Rural Study Areas		Redistributions From Incumbent Carriers		Redistributions From Competitive Carriers	
	Total To Old HCF	Total To New HCF	Total To Old HCF	Total To New HCF	Total To Old HCF	Total To New HCF	Total To Old HCF	Total To New HCF
1	$2,932,313,282	$562,676,423	$901,612,314	$225,088,697	$2,603,976,206	$496,452,837	$1,229,949,394	$291,312,284
2	$2,369,636,856	$1,125,352,846	$676,523,620	$450,177,393	$2,107,523,371	$992,905,673	$938,637,111	$582,624,569
3	$1,806,960,438	$1,688,029,263	$451,434,921	$675,266,092	$1,611,070,535	$1,489,358,508	$647,324,826	$873,936,853
4	$1,244,284,014	$2,250,705,693	$226,346,224	$900,354,787	$1,114,617,698	$1,985,811,346	$356,012,540	$1,165,249,138
5	$681,607,591	$2,813,382,113	$1,257,527	$1,125,443,483	$618,164,862	$2,482,264,183	$64,700,257	$1,456,561,419
6	$681,607,591	$2,813,382,113	$1,257,527	$1,125,443,483	$618,164,862	$2,482,264,180	$64,700,257	$1,456,561,422
7	$681,607,591	$2,813,382,113	$1,257,527	$1,125,443,483	$618,164,862	$2,482,264,180	$64,700,257	$1,456,561,422
8	$681,607,591	$2,813,382,113	$1,257,527	$1,125,443,483	$618,164,862	$2,482,264,180	$64,700,257	$1,456,561,422
9	$681,607,591	$2,813,382,113	$1,257,527	$1,125,443,483	$618,164,862	$2,482,264,180	$64,700,257	$1,456,561,422
10	$681,607,591	$2,813,382,113	$1,257,527	$1,125,443,483	$618,164,862	$2,482,264,180	$64,700,257	$1,456,561,422
Ten-Year Total	$12,442,840,136	$22,507,056,903	$2,263,462,241	$9,003,547,867	$11,146,176,982	$19,858,113,447	$3,560,125,413	$11,652,491,373

Source: Author's Calculations based on USAC Second Quarter 2008 Filing Appendices

The phasing down of support will of course lead to some carriers wanting or needing to raise end-user rates. Those carriers not subject to rate-regulation (such as most wireless carriers) are already free to set rates at any level, and can freely incorporate any losses in funding from the phasedown into their retail charges (however, it is likely since many of these carriers already receive above-need subsidies based on ILEC's costs, they might simply absorb these losses and maintain rates at current levels). Similarly, the incumbents operating in the more than dozen states with no rate regulation are also already free to set rates at any level. Because these state's decisions to end rate regulation were based on the conclusion that markets are competitive, these carriers are also unlikely to raise end-user rates.

For price cap incumbent carriers, either the FCC or state regulators may consider adjusting the price caps upwards proportional to the per line phasedown amounts. However, we reiterate the argument that under price cap regulation these carriers already have incentives to keep costs down to earn a healthy return absent USF support. Also,

considering that the average monthly per line HCF support for incumbent price cap carriers is just $2.16 per line (see Figure 3), there may not be a need for regulators to make any adjustments to price caps for the majority of these supported lines.

For rate-of-return carriers the Commission or state regulators will need to adjust retail rates based on the level of phasedown. However, it need not be a direct dollar-for-dollar increase in retail rate for each dollar of support phased down. This is because a substantial number of rate-of-return incumbents are currently offering advanced services over their USF-supported networks, yet it is unclear if these unregulated rates are taken into account when allocating joint and common costs and the levels of support needed. The regulator (federal or state) should examine these aspects closely to determine the proper level of rate rebalancing for rate-regulated carriers.

iii. Modernizing the Fund to Support Broadband in a Cost-Efficient Manner: Distribution of High Cost Funds For Broadband

We now turn to the question of how to distribute the monies from the Broadband High Cost Fund. We start with the basic premise that it is not efficient to fund multiple infrastructures in high-cost areas, but that consumers in these areas must be able to enjoy the benefits of competition. **Thus any infrastructure supported by the Broadband High Cost Fund must be operated under Title II open access obligations**. This should not be a point of controversy, as it is unreasonable to expend taxpayer resources on establishing monopolies. Open Access is the best policy tool for creating competition in markets with high fixed costs that cannot economically support multiple facilities-based competitors. The use of open access in the rural broadband context is a vital

component of ensuring that citizens in these unserved areas enjoy the same benefits of competition that are available to those who live in more competitive markets.

As a matter of policy, the use of open access in the universal service context is well established globally. For example, the Organization for Economic Cooperation and Development (OECD) recently stated in a recommendation to member states that "[g]overnments providing money to fund broadband rollouts should avoid creating new monopolies," further recommending that any publicly-funded broadband infrastructure "should be open access, meaning that access to that network is provided on non-discriminatory terms to other market participants."[33] The National Telecommunications Cooperative Association (NTCA) made it explicit in their April USF comments that they felt USF broadband funding should come with Title II obligations.[34]

In addition to mandatory open access obligations, all projects supported by the Broadband High Cost Fund must adhere to the FCC's *Broadband Policy Statement*[35], and

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[33] http://www.oecd.org/dataoecd/32/58/40629032.pdf

[34] "However, given that broadband should be included in the future definition of universal service... it is appropriate to reclassify and regulate broadband/high-speed Internet access service under Title II of the Act." *See* Comments of National Telecommunications Cooperative Association *In the Matter of High-Cost Universal Service Support and the Federal-State Joint Board on Universal Service*, Notices of Proposed Rulemakings (NPRMs), WC Docket No. 05-337, CC Docket No. 96-45, FCC 08-4 (Identical Support Rule NPRM), FCC 08-5 (Reverse Auctions NPRM), and FCC 08-22 (Federal-State Joint Board NPRM), (submitted April 17, 2008), (April 2008 NTCA Comments).

[35] In the Matters of *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities* (CC Docket No. 02-33); *Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services* (CC Docket No. 01-337); *Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review – Review of Computer III and ONA Safeguards and Requirements* (CC Docket Nos. 95-20, 98-10); *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities Internet Over Cable Declaratory Ruling* (GN Docket No. 00-185); *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable* (CS Docket No. 02-52); FCC 05-151,

also agree to not discriminate against any type of Internet content based on its source or destination.[36] These fundamental consumer protections are needed to ensure that consumers of the BB HCF networks are protected from the potential abuses of last-mile market power and vertical integration in content markets. Consumers in rural America should have access to the same "open" Internet that is available to consumers in all free nations of the world.

We also suggest that funds from the Broadband High Cost Fund be prioritized to supporting infrastructure construction in areas that are "unserved", meaning those with no wireline or cellular high-speed services available. Secondary priority service areas should be those that are "underserved", or those that have wireline or cellular high-speed services available in portions of the service area. A third tier of priority should be for those areas that have partial or full high-speed service availability, but that service is below 1 Mbps in the fastest direction. It is likely that over the 10-year period we propose for the Broadband High Cost Fund, that only those areas that are "unserved" receive funding, due to the limited amount of resources. However, if our costs estimates are too generous, or if states (or carriers via their own sources of funding such as RUS)

Released September 23, 2005 ("Broadband Policy Statement").

[36] Specifically, this principle was detailed in the AT&T-Bell South Merger Conditions, which stated: "This commitment shall be satisfied by AT&T/BellSouth's agreement not to provide or to sell to Internet content, application, or service providers, including those affiliated with AT&T/BellSouth, any service that privileges, degrades or prioritizes any packet transmitted over AT&T/BellSouth's wireline broadband Internet access service based on its source, ownership or destination." *See AT&T Inc. and BellSouth Corporation Application for Transfer of Control*, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189, (released Mar. 26, 2007) (*AT&T-BellSouth Merger Order*).

implement matching funds, then it is possible BB HCF monies could be used for the underserved areas.

We previously mentioned (in our cost estimate discussion) that the Broadband High Cost Fund will be technology neutral, so long as the funded service is capable of the minimum level of broadband service quality defined as 5Mbps symmetrical, capable of scaling much higher with minimal additional cost, and with latencies no lower than that needed to enable real-time VoIP calls of superior quality. For our cost estimates we used fiber-to-the-home as our projected support technology. However, the Broadband High Cost Fund should not be limited to FTTH. All services capable of meeting the minimum quality definition -- be they wireline, fixed or mobile wireless, or any other technology -- should be considered for funding.

As to the issue of retail rates for the new USF-supported broadband services, we must recognize that currently, broadband rates are not regulated in any fashion. However, in the selection process for granting of funds (described below) we suggest that funds be awarded to those carriers willing to offer services at rates reasonable comparable to those available in urban areas. If ongoing support is needed to achieve this outcome, then that will be considered in the awarding of funds. This structure will maintain adherence to the language of Section 254(b)(3) of the Act.

We have no strong opinion as to the issue of geographic designation of service areas. We do however suggest that Census Tracts may be the appropriate geographic designation for service areas. Census Tracts are small in size, but not so small as to raise transaction costs in program design and implementation. The use of Census Tracts will

also enable better targeting of support, as the FCC's Form 477 data collection efforts are expected to transition to a Census Tract-based system in 2009.[37]

Given that each study area should see the funding of a single infrastructure via the BB HCF, the key question is how to best determine who receives the subsidy to construct and operate that infrastructure as a common carrier. We suggest that the best method for awarding support would be via a Request For Proposal (RFP) process, and not a reverse auction. RFPs allow the funding entity to weigh alternative proposals on more dimensions than just cost (such as a FTTH proposal that also includes WiFi zones). RFPs are superior to reverse auctions, avoiding pitfalls such as collusion, setting reserve prices, and other difficult aspects of auction design. We feel that RFPs are especially superior to the reverse auction process outlined by the FCC, which seems to have a bias towards incumbent carriers. We suggest that the Commission (and not the states) is best suited to solicit and evaluate Request for Proposals (RFP) in order to determine "winning" BB HCF recipients.

In the RFP process, the Commission can deal with the issue of need for ongoing support costs. In many cases the additional revenue streams from services other than VoIP that can be offered via broadband infrastructure will generate enough revenue to cover ongoing costs (as well as a reasonable rate of return). However, an entity submitting a RFP can indicate the level of ongoing support needed -- if any -- and the Commission can take that under consideration.

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[37] In the Matter of Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership, WC Docket No. 07-38, Report and Order, (adopted March 19, 2008) ("Data Order").

Where there is a clear need for additional funding for ongoing costs, we suggest that a substantial amount of the funds remaining for the "old" HCF after the 5-year phasedown (some $700 million annually) could be used to support ongoing costs not covered by user revenues (recall that we estimated the ongoing costs to be approximately $200 million annually for the entire project, before user revenue offsets are taken into account). Further, we would urge the Commission to set aside a portion of these funds to increase the Lifeline/Linkup funds for those qualifying consumers in areas where rates increase as a result of the transition, or those qualifying consumers in areas where only broadband-VoIP telephony service is available.

This last point is worth expanding. In order to hold consumers harmless, we suggest that each carrier supported by the new BB HCF be required or off a basic VoIP (or other comparable technology) local service package to those who request it (and no other service such as broadband or video service), at a cost in line with a state-wide average price benchmark for POTS. This is similar to the current POLR requirements. If this service is set at a price that is below cost, we expect the provider to recoup these costs via cross-subsidies on other higher-level services over the BB infrastructure, such as high-speed Internet and multichannel video service; or the provider can in the RFP process petition to recoup these costs via ongoing support. The key here is ensuring that those consumers who do not wish to (or cannot afford to) transition to broadband are held harmless in the face of fund modernization.

Our proposal is conducted under a 10-year timeframe. In the 10th year of the BB HCF, we suggest that the Commission undertake a complete forward-looking assessment of the continued need of the program. Ideally, the fund will be phased down, with

monies used just to upgrade infrastructures to provide the best quality service, or to provide ongoing support to the "very high cost" areas. We would recommend that at this stage if the goal of universal availability of affordable next-generation broadband infrastructure has been met, then the fund should be phased down to a $1 billion or lower annual level, with the remaining funds used to fund ongoing support needs and to expand Lifeline/Linkup to subsidize broadband service for low-income households in served areas.

iv. Open Question: The Role of Mobile Wireless Telephony

Our Discussion Proposal is centered on the funding of broadband infrastructure, making no preference for fixed or mobile technologies, so long as the minimum level of service definition is met.

But the Joint Board specifically recommends the Commission establish a $1 billion annual "mobility fund" to support construction of infrastructure for voice-grade mobile wireless service. As it is proposed, we decline to support the Joint Boards recommendation for the establishment of this separate and distinct fund.

There is certainly no question that American consumers look at mobile voice services as an integral part of their lives, but the question remains is the Universal Service Fund the appropriate vehicle (from a legal and practical standpoint) to fund mobile service *explicitly*. First, there is no adequate definition of "mobility" in the Joint Board's decision. This is problematic because without an explicit understanding of the meaning of "mobility" it remains unclear how to define "unserved" areas (e.g. there are "drop zones" in many areas that are considered "served" already -- should USF be used to fund the construction of a tower in front of those homes that get spotty interior service)?

Second, there is no strong evidence that mobile wireless carriers would not maintain or deploy service in current high-cost areas absent subsidy. It is possible that some carriers may choose to deploy simply to have nationwide footprint (certainly in highway corridors in rural areas).

Third, mobile rates are not regulated, and carriers are not subsidized based on their own costs. Thus it remains quite unclear that currently deployed USF-supported mobile carriers would either raise rates or abandon service areas in the absence of subsidies. Also, the question remains that under a mobility fund do we use price benchmarks based on mobile rates, and how would those be set?

Forth, it is clear from the plain language of the Act that Congress did not intend to fund duplicate infrastructures for complementary services; instead envisioning the use of portable subsidies to fund substitutable services. Currently, though perhaps 10 or more percent of households are mobile-only, the vast majority of mobile customers maintain their subscriptions to either POTS or VoIP services.

Finally, the mobility fund envisioned by the Joint Board is for the construction of *new* mobile telephony infrastructure in unserved areas. Because of the lack of an adequate definition, it is hard for us to assess the scale of such a fund. The only guidance is the statement that grants could be awarded prioritized based on "the number of residents of each state who cannot receive a strong and reliable wireless signal at their residence."[38] But we do know from recent FCC data that just 0.2 percent of the total U.S. population lives in Census Blocks where mobile voice service is available from one or

[38] *Recommended Decision*, paragraph 17.

more providers.[39] In other words, only approximately 250 thousand households are located on blocks without mobile voice service availability. Also according to the same data Approximately 99.3 percent of the U.S. population living in rural counties, or 60.6 million people [of the 61 million total], have one or more different operators offering mobile telephone service in the census blocks within the rural counties in which they live." Furthermore, according to an industry-funded study, 98 percent of the customers who living in study areas served by a subsidized wireless carrier also have service available from one or more unsubsidized wireless carriers.[40] Therefore the scope of the mobility problem is small.

We suggest given these above consideration that Congress must act if it desires a mobility fund on top of a POLR fund. It is not clear that the USF is the best vehicle to achieve universal mobility. Other options like D-Block spectrum (e.g. "Frontline"[41]) or AWS-3 spectrum (e.g. "M2Z"[42]) proposals may be better suited towards achieving the goals of universal mobility.

We however want to reiterate that we do not object to supporting mobile infrastructures under the framework of our proposed BB HCF. If technologies such as

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[39] *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services*, Twelfth Report, WT Docket No. 07-71, FCC 08-28, paragraph 5 (released Feb. 4, 2008) (Twelfth Report).

[40] Nicholas Vantzelfde, *The Availability of Unsubscribed Wireless and Wireline* Competition in Areas Receiving Universal Service Funds, Criterion Economics, (June 13, 2007).

[41] *In the Matter of Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, WT Docket No. 06-150; *Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band*, PS Docket No. 06-229, Second Further Notice of Proposed Rulemaking, (released May 21, 2008).

[42] *In the Matter of Service Rules for Advanced Wireless Services in the 2155-2175 MHz Band*, WT 07-195, Notice of Proposed Rulemaking, (released November 14, 2007).

WiMax, WiFi, or LTE Cellular can achieve the basic benchmark speeds and latencies set by the BB HCF program, then they can be awarded funds. In fact, the Commission when soliciting and awarding funds can make the ability to deliver mobility a considered factor under the RFP process.

D. Other Considerations and Outstanding Issues

i. Contribution Reform

The Joint Board did not directly address the need for, or shape of USF contribution reform. Because it did not play a prominent role in the current proceeding, we will not discuss it in any depth. **However, we would like to strongly urge the Commission to avoid making broadband services subject to USF contributions for the foreseeable future, even if broadband services are the main recipient of USF funding.** This may seem counterintuitive or unfair, but it is based on the fundamental need to further the goals of universal service. As described in the comments from the Mercatus Center[43], broadband service is currently an elastic service, meaning that a one percent increase in price will result in a greater than one percent decrease in subscribership. Contrast this with telephony, which is an inelastic service (extremely so in the case of basic connection service; less so in the case of long distance, though in today's era of service bundles this distinction is disappearing). Thus, because broadband is a developing market, any USF assessment, no matter how small, could likely result in a net decrease in total broadband subscribership nationwide.

Some commenters who addressed the issue of contributions recommended a shift to a numbers-based or capacity-based USF contributions assessment (or a hybrid of the

[43] Comments of Mercatus Center (George Mason University) in *Recommended Decision; Identical Support NPRM;* and *Reverse Auction NPRM,* April 17, 2008.

two) as opposed to the current system based on interstate revenues. We do not oppose a move to such a system, so long as basic consumer broadband service is exempt; so long as there was a phasedown for family plans to maintain parity with current burden, and so long as there are exemptions for those qualifying for Lifeline/Linkup service. We would prefer a methodology that maintained the current relative burdens between businesses and consumers (such as a numbers-capacity methodology). Studies seem to indicate that a shift towards this type of assessment would not result in a substantial change in distributional burden.[44]

ii. Congressional Need to Overhaul The USF

Ultimately, enacting USF reform under the constraints of the 12-year old Section 254 and 214 is a challenging endeavor that need not be. The Joint Board's recommended decision is arguably designed to appease the largest amount of vocal interest groups. Not surprisingly, the *Recommended Decision* does little to boldly move the USF into the 21st century.

Congress has the ability and the duty to step in and remedy this problem. But the need for Congressional action does not preclude the FCC from acting, and should not be an excuse for enacting only moderate changes to the Fund.

[44] "Financing Universal Telephone Service", Congressional Budget Office, March 2005.

III. CONCLUSION

It is plainly obvious from the record in this proceeding that there are no easy solutions to correcting to the problems of the Universal Service Fund. But the Commission must act judiciously, boldly and in a manner that adheres to the Act's commitment to ensuring universal, affordable access to the most important technologies of the era -- whatever and whenever that may be.

Broadband is the dominant communications service of the 21st century. There is little doubt that the benefits of applying USF to broadband far outweigh the costs. America's place atop the global economy for the remainder of this century requires a comprehensive policy commitment to closing our digital divide. We strongly encourage the Commission to affirm the Joint Board's decision to support broadband, and urge all five Commissioners to move expeditiously to enact reforms that make open access broadband networks the centerpiece of universal service policy.

Respectfully submitted,

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